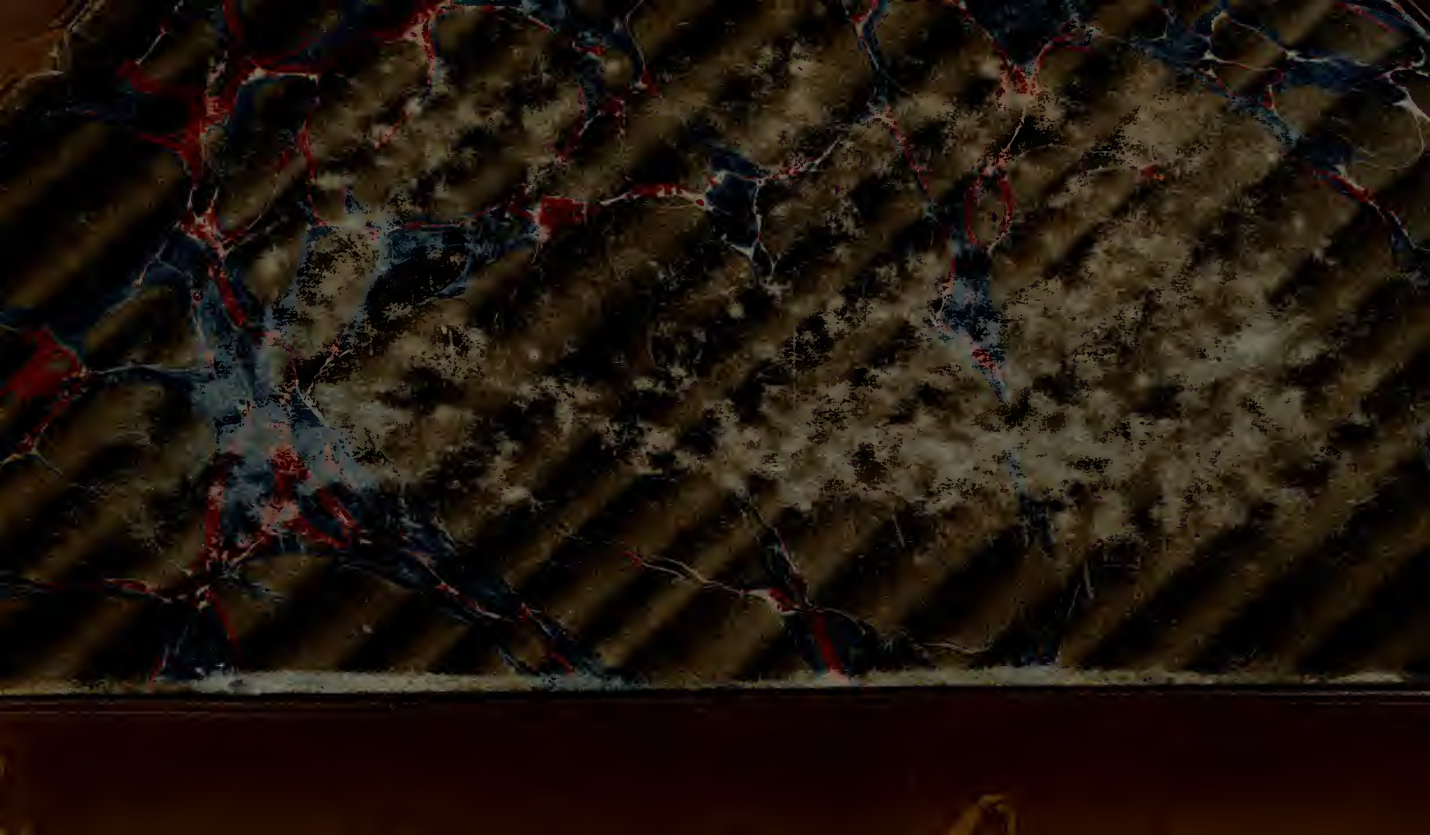

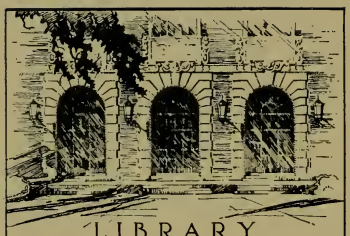

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MANCHESTER SHIP CANAL BILL.

SESSION 1884.

REPLY

OF

MR. PEMBER, Q.C.,

ON BEHALF OF

THE PROMOTERS OF THE BILL,

BEFORE THE SELECT COMMITTEE

OF THE

HOUSE OF LORDS,

20TH, 21ST, AND 22ND MAY, 1884.

HIS GRACE THE DUKE OF RICHMOND AND GORDON IN THE CHAIR.

PRINTED FOR THE PROMOTERS

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REPLY OF MR. PEMBER, Q.C.,

ON BEHALF OF THE PROMOTERS OF THE BILL,

TUESDAY, THE 20TH MAY, 1884

(BEING THE 38TH DAY OF THE HEARING OF THE CASE).

HIS GRACE THE DUKE OF RICHMOND AND GORDON IN THE CHAIR.

INTRODUCTION.

Mr. PEMBER: My lords, it is no affectation upon my part if I say that as I approach the close of this case, I shrink somewhat from the task that is before me. I have no right whatever to leave a single topic untouched; if any member of the Committee had given any direct indication of opinion in the course of the inquiry (and I am bound to say that no tribunal before which I have had the honour to appear has kept their counsel better than the present) in so great a case, I should have hesitated very much to act upon any such presumption; and, therefore, an inexorable fate will keep me some time speaking, and keep you some time listening to me; but I am sure that you will sympathize with me in an exposition which has many branches forming a somewhat tangled skein, which it will be very difficult for me to unravel properly.

CHAPTER I.

THE COMMERCIAL CASE.

Now I ask myself what have I to answer? What was it I undertook to prove? What did I fail to prove? What have the opponents alleged or proved either substantially as something fresh upon their own part, or by way of criticism upon my evidence and my speech? I began this two-sided investigation by stating succinctly the position which I have all along taken up for the promoters. We say that Lancashire, and such parts of Yorkshire and Cheshire as are geographically and commercially associated with Lancashire, form together by far the most impor-

tant trading and producing centres of Great Britain, or, I may say, of the world. They have been supreme in their own line, but their supremacy is seriously threatened. The maintenance of the supremacy, if possible, I say, is vital to the interests of England. It is threatened by that wave of industrial growth which has spread over Europe and over the United States and India, and which is temporarily intensified by the fiscal perversity of the nations in which it has arisen; but this industrial growth abroad affects nearly all our home industries and I venture to say that many writers and others underestimate its effect. They see that England has real or apparent means of wealth-making, which are not home industries; for instance, they see the enormous extent to which banking both home and foreign, and all that is akin to the home and foreign banking, has gone. They see the enormous extent to which foreign businesses of one kind and another have been carried by Englishmen—that is to say, by Englishmen who conduct business abroad, and remit home, all of which goes to swell the home profits. They see the various investments which are carried on in different parts of the globe with English capital, such as gas works, railways, harbours, water works, and what not; and lastly, but by no means least, they see, and see truly, that England possesses to a very considerable extent the carrying trade of the world. They are content with all this. I venture to think they are rashly content, and they seem to say, as it were, Let the home industries look after themselves; the country grows richer and richer every day, somehow or other. I dare say that is true, but surely, your Grace, home industries are worth preservation. After all, production is the safest thing to cling to—it is the surest and securest form of wealth—the money markets may shift, foreign business may decay, the carrying trade may carry itself somewhere else, but our home industries will never forsake us unless we ourselves, in the first instance, are foolish enough to forsake them.

Now, my lords, this Bill is the outcome of a long feeling and development of a long standing idea, applied as a remedy. Engineer after engineer has schemed it; Parliament, in Act after Act, has safeguarded it; it is based upon the universal conviction that, in the cost of production, transit is the last great factor which it is possible for us to reduce. That is the meaning of the Bill, and I will say at this point how irrational has been the dislike with which the project has been met. There has been, quite apart from all question of its feasibility—quite apart from all question of damage to the railway gradients, or anything of that nature, quite apart from the question of injury to the Mersey—there has been, I say, a sort of irritation against Lancashire for not having rested content with things as they are, and especially against Manchester and my clients as the leaders and organ and mouthpiece of that discontent. The very folk who would have been the loudest against any attempt to feed and foster the industries of foreigners by the imposition of the smallest import duty are equally angry with us for a perfectly legitimate attempt upon our part to cheapen home production. Really it would seem as if there were a certain class, and by no means a small class, in the country,

who were as hostile to the relief of home industry as they are to protection.

I attach, your Grace, great importance to the fact that this is a producers' Bill. Liverpool produces nothing; that is admitted upon all sides; Lancashire, I had almost said, produces all things, or at all events is capable of producing almost all things. I draw a distinction between business and industry—between business which is merely transacted and the industry which actually produces. The businesses that Liverpool can do are secondary; they arise out of the industries of Lancashire. Liverpool is the tradesman, so to speak; Lancashire the producer and the consumer. I say that the former, that is the tradesman, exists for the two latter, and not the two latter for the former. The former is subservient and secondary, both in character and also in importance to the country. If Liverpool owes £16,000,000 to those who hold its dock bonds, Lancashire has £100,000,000 invested in its cotton industry alone. It will not harm the country if a portion of the business done at Liverpool be transferred to Manchester—it will harm the country much, or it would harm the country much, if a proportion, even though a small one, of the production done in Lancashire were to be transferred to Pennsylvania or to India, to the banks of the Seine or of the Elbe.

That is the position we take up—it is to prevent that kind of damage to the country that we are here, and have been here in two successive Sessions of Parliament. It seems to me, your Grace, to matter little with what branch of the evidence I first deal; but I began in opening this case with the mercantile part of it, and so in reply I will deal with the mercantile evidence first. The mercantile evidence is obviously divisible into two great heads: first, the saving that is to be achieved in transit; and, secondly, the traffic which exists, or which may be looked forward to, and therefore is either at the present moment, or in the future, to be accommodated. Now the saving is laid down in Mr. Adamson's original tables, supported by the individual testimony of various witnesses, each man speaking for his own trade or for his own town.

CHAPTER II.

THE COTTON TRADE.

Now let us take the cotton trade first, as being the most important of the existing interests. The tables, as your lordships well know, which refer more particularly to the cotton trade, are the tables Nos. 28 and 29 and 30; No. 28 containing the details and method of saving, Nos. 29 the towns embraced in the table, and No. 30 the total summary of savings; that is to say, I have a table of some 14 or 18 names of towns in Table 28; and then, as subsidiary to the different towns, a variety of places

and districts, every one embracing a certain neighbourhood of satellites, each one of which is of importance to the subsidiary centre of production; and finally, on Table 30, we have a summary of the savings involved to the cotton trade alone, which is put at £508,000 a year. Now those tables, with which we begin, are the saving to the cotton trade. They are the texts upon which we all have preached, and the points made against those tables by the opponents' witnesses are the points, of course, upon which they preach, and they are very well defined by Sir William Forwood; in fact, I made him do it myself for my own purposes, and if you turn to page 1740 to one question which I asked Sir William Forwood, and his answer, that is Question 22803, you will find distinctly how he formulates the attack. I asked Sir William Forwood what are the points at issue between him and Mr. Adamson. He gives me first the consumption of raw cotton per spindle, then the 6d. a ton, which we admit is the amount of the reduction in dock dues since March, the quay attendance, and the master porterage; and I say, "Those are the items upon which we differ." He says, "Precisely, and the cartage." Now I ask you to note that the only evidence worth talking about, which is produced in the attack upon the cotton evidence, is that of a Liverpool man, and that is Sir William Forwood.

I must ask you, my lords, to consider to a certain extent the personality of Sir William Forwood; he is hostile to this measure, and always has been, I am sorry to say it, almost to the very verge of spitefulness; he is inaccurate, and I will undertake to prove it, even to rashness. "Inaccurate even to rashness," I say; and let me give you one or two instances to prove it. Remember what he said about this measure, this scheme, about the astute lawyers and the clever engineers who had started it, but who had nothing whatever to do with it. As Mr. Adamson showed you abundantly, rightly or wrongly, the scheme is the outcome of the feeling in the Manchester district. My learned friend, Mr. Pope, may be right or wrong in saying it is the enthusiasm of the "unthinking masses"—at all events, it is the enthusiastic view of somebody, and it is not the chicanery of clever lawyers or engineers, who have had nothing whatever to do with it until they were called in to consider the best means of carrying out the scheme which the local people devised. So far from its having originated with the engineer, the first engineer whom we called in gave us a scheme which we could not commit ourselves to, and we had to change our engineer. Then another thing showing the extreme rashness of Sir William Forwood; after all the evidence you had from witness after witness engaged in trade, after all the declarations on the part of many of my learned friends as to the depressed state in which the industries of Lancashire were—so depressed that they laughed at the idea of finding the money for the purpose—Sir William Forwood came forward in the face of it to say that the cotton trade is remarkably prosperous. Thirdly, again, after having the evidence of man after man, every one of whom was examined in his own line, Sir William Forwood comes forward and says there is no risk or danger from foreign

competition. Liverpool, of course, he is to the very backbone ; a prominent member of the Cotton Brokers' Association of Liverpool, and has been its president. Now, that is the gentleman who is put forward to lead the commercial evidence against us, and endeavour to rebut ours. But there has not been a man from all Lancashire outside Liverpool produced upon their behalf to show disbelief in this scheme, or to exhibit any criticisms of it, or the grounds upon which it was based.

Mr. ASPINALL : There was Mr. Hunter.

Mr. PEMBER : He is a member of a Liverpool firm.

Mr. ASPINALL : No, he came from Manchester.

Mr. PEMBER : I am distinctly told that Mr. Hunter is a member of a firm which has a house in Liverpool, and who do a large forwarding agency business there ; that must be a fact, which you can investigate for yourselves.

Mr. ASPINALL : I say distinctly he is not, and he was not asked the question.

Mr. PEMBER : I say again, until I am contradicted, that it is so. He is asked this question : "You are resident managing partner in Manchester of the firm of William Graham and Company ?—I am. (Q.) Do they carry on a large business in Glasgow, Manchester, and Liverpool ? —Yes, they do and elsewhere."

Mr. ASPINALL : Then he is asked, "I believe your firm is about the largest firm engaged in the export trade from Manchester ?—Yes, that is so."

Mr. PEMBER : I dare say Sir W. Forwood exports Manchester goods through Liverpool, but you would not say that Sir W. Forwood was not a Liverpool man. I say again, Mr. Hunter is as much interested in Liverpool as Manchester, but if you like to take Mr. Hunter as an unimportant exception, you must. There has not been a man called from Lancashire who has not an interest in Liverpool, produced either to show that they disapprove or to exhibit criticism of our scheme in any particular. Even Mr. Ellison, who is a Liverpool cotton broker, has not been produced, although he has been vouched for two years by Sir William Forwood. And yet it must have been easy, according to my learned friend Mr. Pope's showing, to do this. Where are the monied classes of Manchester who stand aloof from our scheme, or disapprove of it ? Could not the energy of the opponents' solicitor find one man to come forward and say, with my learned friend, Mr. Pope, "This is all moonshine ?" Could not Sir William Forwood, with all his ingenuity and hate of the scheme, hunt up one man, to come and back him, out of all Lancashire ? Not even Mr. Hugh Mason ? I say there is not a soul called who is worth talking about, except Sir William Forwood, and his attack is confined, as the cross-examination of all our witnesses was confined, day after day, to the points I mentioned—brokerage, cartage, quay attendance, master porterage, and consumption per spindle. I forgot to mention brokerage just now, when I mentioned the points Sir William Forwood raised.

Now I will, one after another, deal with Sir William Forwood as my

opponent, upon brokerage, cartage, quay attendance, master porterage, and the consumption per spindle. Sir William Forwood and ourselves are at issue upon 2½lbs. per spindle. He gives 37½lbs. as the average; we give 40lbs. It is characteristic of the carelessness of Sir William Forwood that last year he put down the consumption per spindle at 32lbs. Obviously he was wrong last year, and, as we say, he is in the last degree likely to be wrong in this. He vouched Mr. Ellison last year for his 32lbs., and he vouches him this year for his 37½lbs. Then he further insisted that Mr. Ellison's tables of consumption were the actual consumption, and stood me out for a long time that it was so—that it was an actual fact—and he drew a most elaborate distinction between deliveries for consumption and consumption itself; the latter distinction I admit would be substantial if our tables dealt with deliveries for consumption only of one year; but our Table 24 deals with the consumption for 30 years—for a whole generation. It is clear, therefore, that our deliveries for consumption during the 29 years out of the 30 must have been consumed, because no one supposes—even Sir William Forwood did not go further than to say that the consumer bought for more than a year in advance, at all events. If so, I might ask, Where does he store it? Can many buyers store a 12 months' supply? If they can, then all I can say is, that the canal company need not bother itself about warehouses. But so much for the highly important difference between consumption and delivery for consumption, which is entirely destroyed by the fact that our table is not for one year, but for 30 years.

But there remains the other point with regard to consumption, upon which Sir William Forwood was so positive, namely, first of all, that Mr. Ellison's figures for consumption were actual. "Those figures are absolute," says Sir William Forwood, upon page 1716; "we have the actual figures for consumption given by Mr. Ellison," he says at page 1714. Yet he is asked to admit to me that after all it was an estimate. This is said upon page 1714, and I think is worth looking at: "Now is not Mr. Ellison's estimate of actual consumption an estimate?—It is an estimate." And I show him later on, Mr. Ellison's declaration quoted from his own tables were under the head "Consumption of raw cotton in Great Britain." This is the heading: "Statement of the actual deliveries, estimated consumption, and surplus stocks at the mills." But not only did this appear upon Mr. Ellison's table, but I should like to call attention to a letter Mr. Ellison wrote us himself. On page 1740 you will find Mr. Ellison's own declaration of his inability to state the actual consumption. We wrote to Mr. Ellison, as I put to Sir William Forwood in cross-examination, to ask him how we could get at the consumption per spindle, and we wrote thus: "Could you favour me with a sight of your statistics of the number of spindles and quantity of cotton sent inland to the different towns in Lancashire for consumption in the course of the year?—I have a number of statistics furnished by a number of authorities but I am anxious to verify them. I shall be happy to pay any charge on learning the amount." Now what was the

answer from Mr. Ellison: "I regret to say that I have no means of ascertaining the particulars you require. I have no doubt that you will be able to obtain very full information from the secretaries of the Masters' and Operatives' Associations in the various towns." That is precisely what, many days ago, you were told we had done. We had correspondence with those persons before Mr. Ellison told us, and we got, not the deliveries for consumption from them, but we got the exact amount of pounds per spindle consumed. What Mr. Ellison suggests to us, therefore, as the right course, we had previously adopted. While Sir William Forwood's own vouchee was, therefore, unable to give me the information as he told us, he told us where to get it, and we got it. Mark this, that with the fullest intention of giving the evidence that he did give, Sir William Forwood never instructs, directly or indirectly, and no one instructed my learned friends to cross-examine any of the skilled witnesses we called, who could have given the information as to the consumption per spindle of cotton in all our mills. Now, when I cross-examined as to whether 40 lbs. was the right amount or not, as the average consumption including waste and tear, 40 lbs. per spindle had been in the evidence ever since the first day Mr. Adamson was put into the box. Any Oldham gentleman could have answered the question at once. Why were they not asked? And, moreover, the inaccuracy must have been known to the opponents all along. They took several days to prepare the cross-examination of Mr. Adamson. Why did not they cross-examine upon a point of that kind? Besides, there is this point on this question of deliveries for consumption, and consumption, even if the cotton were wasted, or stored, or consumed by fire, if you like, instead of by spindle, the delivery would still be actual; and all the saving in transit would arise—the saving is on every bale delivered—it does not matter whether it is consumed or not. But I may go a great deal beyond even Sir William Forwood, in the presumptions against his evidence. Mr. Findlay gives in his evidence the strongest presumption that we are right; he gives the quantities of cotton carried within what he calls the 12 mile radius; and if you look at page 1854 you will find that he gives that quantity at 474,292 tons; it is Table C. Sir William Forwood totals the consumption, irrespective of radius in the spinning district; he gave it at 458,000 tons, we gave 508,000 tons. Therefore, Mr. Findlay makes up that odd 16,000 tons out of the 50,000 tons difference between us and Sir William Forwood, and yet, mind, Mr. Findlay, in cross-examination, confesses that the district coloured red on his map is not nearly a real 12 mile radius. It leaves out many stations on our Table No. 29, which shows the number of towns that we save upon—I believe over 40 railway stations are left out by Mr. Findlay. And further, Sir William Forwood allowed nothing for waste. That I hold, therefore, most distinctly to be a combination of proof out of the mouths of Sir William Forwood and Mr. Findlay that our consumption of 40 lbs. per spindle is probably right. Mr. Findlay brings it up pretty nearly half way between 37½ lbs. and 40 lbs., and the towns Mr. Findlay has not taken into consideration may be, will make up the odd 1½ lbs. I

leave that point in all confidence with this quadruple defence. Mr. Ellison says "I do not know, I cannot tell you." Then Sir William Forwood says, I talk after Mr. Ellison; Mr. Ellison says, that the way we have gone about to find out is the right one. Thirdly, I say the saving in transit would be upon deliveries and not actual consumption; and fourthly, I say that Mr. Findlay says what we say.

Now as to brokerage. This forms a very important item in our saving. The avoiding of the brokerage of 6s. a ton gives a saving of £152,641, that is only avoidance of one brokerage. Now as to the system of double brokerage at Liverpool. You can surely see how that has arisen. It arose, undoubtedly, from the fact of distance, and it is protected by the most rigid rules; it is a trade union of very great power and most uncompromising tenacity; it is composed of wealthy men, who know at once their strength, and their interest, and who use their strength without scruple to protect their interest. The association is so jealous that, as Sir William Forwood admitted, they black-balled a candidate because he represented the principle of co-operation; and they fined a member £50 for acting alone between buyer and seller. Mr. Fielden explains at the present time how difficult it is to evade the association. Mr. Fielden says: "There are very close regulations in Liverpool about the sale of cotton. The Cotton Brokers' Association injures the free sale of cotton. It is not a very easy matter. If a man passes by the association he is a black sheep for the future; that is why so small an amount of cotton is bought direct between the spinners and the merchants." That he says on page 115, in answer to Question 1625—and then he adds what is extremely wise, and of great pertinence: "Whenever cotton or any other article rests upon the line of communication there is a growth of traders there and a growth of dealers, and they interrupt the free flow direct of the article from the plantation to the mill. Now, wherever it rests, there is a growth of traders—traders and dealers are not likely to honour an article with that intermediate attention without a profit, and their interruption must be, of course, costly to industry, and become an indirect tax upon raw material. Now Mr. Adamson in his table gives the exact amount at 6s. per ton. It seems to me, I confess, to be ridiculous to suppose that this kind of "dual control" of the cotton trade is in the least degree necessary. So ridiculous is it that Mr. Andrew, who is the secretary to the Oldham Master Spinners' Association, tells you that the same man very often acts the two parts—one broker acts the part of the buyers' and the sellers' broker, receiving very often payment from both sides. I wish I could manage to be on both sides occasionally; it would add a good deal to my slender gains. He says on page 132 that this habit is notorious. Now, not even the ready Sir William Forwood, who is a member of the Association, and has been president, contradicted Mr. Andrew; and he says they fined a man for acting between the two, but it is perfectly obvious what he meant—namely, acting for one fee. The same witness, Mr. Andrew, says that 90 per cent. of the cotton sold in Liverpool is subject to this factitious and unnecessary

method of restriction. Mr. Bradbury insisted upon the ability with which he could transact his purchases at Manchester if he got the chance. He says, I could do it at Liverpool even, if it were not for the rules of the Association. My learned friend, Mr. Aspinall, indeed tried to make him admit in cross-examination that doing his own broking would involve a great loss of time, but he declined to admit it. He stuck to his guns, and it is obvious that Mr. Andrew is right—that distance is really the great propagator of middlemen, and that a parasite would have no chance of growing in what I would call the healthy home atmosphere of Manchester.

My learned friend, Mr. Pope, had a long discussion with Mr. Walmsley about brokerage, which is on pages 90 and 91. My learned friend, Mr. Pope, insisted that you must have either a selling broker as well as a buying broker, or an arbitrator, to settle disputes; either you must have the buying and selling brokers as he there mentioned, or you must have an arbitrator to settle disputes in the event of your buying straight from the merchant. But my learned friend, Mr. Pope, forgets that the buyer's or the seller's broker on the one hand are not more likely to fall out with the merchant than they are to fall out with the merchant's broker. Why should they? Why, if I employ a man to do my business, if I cannot do it myself, am I a bit more likely to fall out with the principal than with the intermediary? I should have thought I was more likely to fall out with the intermediary, and, as a matter of fact, they do fall out with the intermediary; which is proved by the fact that in Liverpool you have three functionaries, two of whom you must employ, and one whom you may call in. You must call in the buyer's and seller's broker, and you may have to call in a functionary called an arbitrator of the Association to settle disputes. Mr. Walmsley goes the length of saying, I should get rid of both brokers, I should find plenty of merchants in Manchester who would show me samples, instead of merchants' brokers, showing me them. He says, "I come into Manchester to sell my yarns; I should walk on to the merchant's warehouse, when in Manchester, and buy my own cotton, and if they did not turn out to be according to sample, then I should call in the arbitrator." Without going so far as Mr. Walmsley was prepared to go, certainly one broker would be abolished—just see how the thing would work. One broker may have 100 samples culled from a dozen merchants, from which the buyer might choose safely—it might be dangerous for a buyer to buy from the ship, but a long-experienced spinner must be a judge of samples and could buy from samples before him. The conclusion is obvious, that the system of double brokerage has grown up in Liverpool simply because it is 40 miles from the Manchester mills—the ring, and those who profit by it, is far too strong to be broken through so long as they sell stuff at Liverpool, but it will be broken through as soon as trade moves to Manchester, and when that does occur there will be an enormous saving on the raw material, of at least one brokerage, equal to 6s. a ton, which represents £152,000 a year.

That is the story about the brokerage. If your lordships do not

think it not merely a plausible story, not merely a likely story, but a natural story, and a solution, in part, of great and difficult problems, I must say I shall be astonished. That serves me, therefore, upon those two points—unless my review of the evidence is altogether erroneous—the consumption of cotton per spindle, and certainly proves as clearly as inference can prove it that there will be a saving of 6s. a ton upon the amount of the article consumed by the abolition of only one of these middlemen. If Mr. Walmsley is right we shall have double the saving ; but for that we have not taken credit. We have been in that particular, as I venture to assert, in spite of Mr. Littler, we have been all through moderate and modest in our estimate of the saving.

And now for the cartage. To begin with, the amount put down by Mr. Adamson as an element in saving for cartage was not an estimate ; it was an actual offer by a carter, and inasmuch as this cartage is really an important item, I will venture to risk losing a minute or two to show you that it was so. My learned friend, Mr. Balfour Browne, at page 20, asked Mr. Adamson this question. He states what the cartage is to be, and then your Grace asked him yourself at No. 188 : " Do you ever use this land carriage to Manchester now ?—No. The Cheshire Lines Committee have one of their lines passing from Liverpool *via* Stockport, and we have a direct railway communication with the mill. Mr. Balfour Browne : The carter is employed in carrying your yarns into Manchester ?—Yes, every day. (Q.) You know the cost of carriage and you have put down a fair and sufficient sum ?—It is his offer to do it as a maximum." That, you see, is better than all the inference which Sir William Forwood may draw as to what he thinks at the present time ought to be the price of cartage. But Mr. Leigh, the cotton spinner of Stockport, which is about seven miles from Manchester, went much beyond Mr. Adamson. At page 214 he tells you that he has inquired of many carters, and 3s. a ton to Stockport is the average price quoted to him. That is in answer to Question 2921 : " What ground have you for supposing that you could carry that distance cotton for 3s.?" and he says : " I have asked several carriers what their charge would be, and 3s. is the average of the prices that were given to me, and I know that the back carriage of 3s. would leave a profit to the carrier." Now there you see Mr. Adamson has asked one, and Mr. Leigh, of Stockport, had asked a great many. Here, again, I claim moderation. We allow 3s. 6d. to Stockport, and the several carters told Mr. Leigh that they would do it for 3s., so that we were 6d. over the mark. My learned friend, Mr. Aspinall, cross-examined Mr. Leigh to show that the stock of carts would fail. If so, all I can say is that the cartwrights' and wheelwrights' trade is one that would obviously be revivified to a considerable extent round Manchester, but that is all nonsense. Mr. Adamson tells you, at page 155, that the contract price in Manchester is 5d. per ton per mile for short distances, which is rather under our rate for long distances ; he is asked at Question 2200, "What do you cart at 5d. per ton per mile ?—Manufactured goods." At 2197 he is asked what it should be, " How much per ton per mile you are accustomed to that ?—Mr. Bradbury says his goods

cost him—— (Q.) I would rather you told me?—5d. per ton per mile." Mr. Barlow, cotton spinner, of Bolton, another experienced witness, put it rather lower. He gives evidence which works out at 4s. a ton for ten miles. At page 168, Question 2399: "What does it at present cost you to cart from Bolton to Manchester? – Somewhere about 6s. a ton, but we anticipate that if we could give the cart and horses back carriage we could reduce that considerably and easily get it done for 4s. (Q.) That is without back cargo?—We have no back cargo. (Q.) That is 4s. a ton for 10 miles?—Yes." You see, if you work it out, it is 4·80d. per ton per mile. Mr. Bradbury says the Ashton cartage will be 3s., and he bases that upon the actual charge from Manchester to his mill, of 2s. 6d., and he says, Your docks at Throstle Nest will be a mile or a mile and a half further from me than the Railway Station at Manchester is, so I put another 6d. on, bringing it to 3s.

Again, your Grace, our table, which Mr. Bradbury says need not be higher than 3s. to Ashton, is 3s. 6d., so again we are there over the mark. Mr. Walmsley, once more referring to his Stockport charges, says, I pay 6s. 8d. now to Stockport; it will be 3s. 6d. because I can ensure my back fare.

But passing by these gentlemen, who after all, though they have talked to carters and know what they pay now, are somewhat in the position of witnesses giving secondary evidence, let me go to what Mr. Priest, the carter, the high priest of his trade, says on page 846, and if he is not enough for Sir William Forwood, I will try another remedy with him before I have done. Mr. Priest says, I will cart, if a return load is given me, at 5d. a ton a mile. I will cart within a radius of two miles for 1s. 6d., showing, therefore, that the short distance pays somewhat more than the longer, and, says he, I will go to Oldham now for a guinea, taking and fetching four tons each way, that is eight tons. Now, if you take Mr. Priest's evidence, in which he says distinctly that he will go to Oldham and back again for a guinea, and then divide it by the mileage, it works out at 2s. 7½d. a ton altogether, and at the mileage it is something very small indeed, but it works out at 2s. 7½d. per ton between Manchester and Oldham. Now, if you look at Table 28 again, the table with which we are taunted as being absurd and immoderate, we allow 4s. for Oldham, that is to say 1s. 4½d. more than Mr. Priest, the carter, says he will do it for. As this cartage is an important matter, because it is part of our route, I do trust that I may not seem to be pertinacious in asking your lordships to refer to Mr. Priest's evidence, beginning upon page 845 and ending on page 850—it is in cross-examination by Mr. Sutton—he gives 21s., which Mr. Sutton puts at 3d. a mile, though his arithmetic is wrong; and therefore for Oldham, which is one of the most important of all our stations and towns, we make our saving too little upon the cartage; we ought to have made the total saving 8s. 3½d. per ton, if we put the cartage at Mr. Priest's figures, at 2s. 7½d. instead of 4s., adding 1s. 4½d. to the total savings—to Oldham, one of the largest of all the consuming towns in Lancashire for raw cotton—taking the 4s, it would make 32s. for 8 tons against Mr. Priest's guinea, or an addition of 50 per cent.

I should like to wind up the evidence upon the cartage, not with the evidence of our own experienced traders, not with the evidence of the carter who is an expert in the trade, but with the evidence of Sir William Forwood himself, given in 1881, only two years ago. You will find it, in case you have not got the evidence of 1881, which is quite possible, if you turn to page 1746, Question 22849 of this year, where it is repeated. I may as well read it from there, though I have the evidence of 1881 before me. "I should like you to go to what you say about cartage in your evidence of 1881 upon page 97, Question 1956. With regard to the rate to Manchester you said you had an offer of 8s. a ton to be carried by carts?—Yes, for a distance of 31 miles. (Q.) Have you tested it yourself as a practical person to ascertain whether it is really a valid offer?—Looking to the position of the man who made the offer, I think I may accept it as a valid offer. (Q.) Do you know the nature of the road between Liverpool and Manchester?—It is a very level road directly after you get out of Liverpool. (Q.) I suppose two horses would draw three tons?—They would draw four tons I think upon that road. (Q.) That is to say in a well-constructed wagon?—Yes. (Q.) I suppose they would require something like three days to go there and come back?—I should imagine that they would work by stages, leaving the horses at fixed stages. (Q.) I presume that team would cost something like 10s. a day, would it not; that is to say, two horses and a man?—I should think so, from 10s. to 12s. a day. (Q.) So that the owner of the horses would have 48s. if the expenses were 12s. a day for the distance?—Yes, that would be about it, and 32s. each way for the carriage. (Q.) That is 48s. that he would actually have to pay for expenses and the carriage would be 32s. each way, so that he could do it and have a profit?—He could do it upon that showing and have a profit upon that. (Q.) That brings you to the conclusion you expressed at the beginning of your evidence that you were no better off at Liverpool now with railways than you were before you had them?—I stated that with regard to the rates by the canals before the railway times upon the Duke of Bridgewater's canal." There is Sir William Forwood, who adds enormously to our cartage, actually declaring that he has had a substantial offer from a man he could trust, two or three years ago, to do his cartage for 31 miles for 8s. for 4 ton loads, just over 3d. a ton a mile, and not a word was suggested about back carriage. Well, that seems to me to be pretty opalescent sort of evidence which gives a different colour in almost every light in which you exhibit it. The back carriage can be easily arranged by these traders, by choosing the day to have the raw cotton in when their yarn is being sent to Manchester.

Now, have I or not made good my cartage point out of the mouths of competent witnesses called by me, and also out of the mouth of a witness whom the other side must admit to be competent, even though I do not agree with them?

Then I go to the master porterage question and the quay attendance; there can surely be no question that it is a gross abuse which exists

in Liverpool to Lancashire's cost, and at no other port in the United Kingdom. It is an aggregate charge for master porterage alone of 1s. 2¼d. a ton, covering 18 alleged services. Very few of these are ordinarily necessary as stated by Mr. Marshall Stevens, who has his long experience at Garston to guide him as to what need be done with a bale of cotton when coming into port, yet the payment upon one and all, whether one out of 18 or the whole 18 are performed, or none, is absolutely compulsory. My learned friend, Mr. Pope, tries once or twice to say that quay attendance, for which another 1s. per ton is charged at Liverpool, is an "inventive term," but Mr. Marshall Stevens says it is invariable. Mr. Marshall Stevens says, "I copied it from the London and North-Western rate books:" how can it be invented or contestable? He says, I copied from the London and North-Western rate books. Mr. Crossley and Mr. Adamson produced invoices, and they say the charges which appear there are invariably made, and these are payments which are inevitable and payable. Mr. Crossley says so on page 279, in answer to Question 4080, and Mr. Adamson says so on page 165, in answer to Question 2339. Now that being so, it is no answer if it is an abuse, and if it is useless and unique, to say it is statutory. There very likely was at the time Parliament passed the Mersey Dock Act about master porterage a still greater abuse existing, of which the present system of master porterage, for all I know, may have been a slight or a great amelioration. But remember that statute is a dock board statute; it does not bear the same *imprimatur*, to use Mr. Littler's funny phrase, of Parliament, that a public statute bears when passed in consequence of being brought forward by a great department. It was settled between the dock board and the shipowners—they asked Parliament to sanction it, and it was sanctioned—I do not suppose Parliament went deeply into the matter, but it was done. But Parliament has never said—holding the scale between the traders who pay this master porterage and the dock authorities—you traders shall pay this impost whether you have the services performed which it represents or not. Of course it is a very profitable thing to shipowners, no doubt, and to other master porters. One or two shipowners affect to say it is not, but they will not show their accounts, and one or two say they do not keep any. Mr. Squarey, the Dock Board solicitor, admitted in evidence in 1880 that it was a profitable business. No professional master porter other than a steamship owner, no delegated master porter is brought to prove that it is what farmers call a very near thing; and why these high charges are necessary only at Liverpool is what we want to know. There is no attempt to prove its existence at Hull, Glasgow, Bristol, Southampton, or any other port. We know what a ton of cotton can be passed through Fleetwood and Garston for; and on Fleetwood and Garston let me say this—it is absurd to twit us with their being railway ports. Mr. Pope and Mr. Aspinall suggest that the work is done at a loss to attract traffic at Garston and Fleetwood, because they were railway ports, and that the railway rate recoups them; but the competition between Fleetwood and Garston is an ordinary competition between the Lancashire and Yorkshire Railway Company and the London

and North-Western Railway Company; their docks are part of their system, and there is no greater competition between their docks than there is between their railways, and there is no reason why companies should carry on a more ruinous competition at their docks than upon their own lines of railway. That the railway rate recoups them the loss of the dock due is simply absurd. How can it be? Fleetwood is 50 miles from Manchester, Liverpool is only 31 miles, therefore the Fleetwood rate is leaner, to use their own phrase, than the Manchester rate. Moreover, if their suggestion was a true one, how grossly unfair it makes the rate from Liverpool to Manchester. If the Fleetwood rate is so large and ample that it covers a profit upon 50 miles of railway transit to Manchester, and also the loss on the docks, what must the same rate be between Liverpool and Manchester, only 31 miles instead of 50, when it has no dock dues to cover? But Hull, Bristol, and Glasgow are not railway ports. It is no good pointing out the smallness of the business done at Garston; the larger the business the more cheaply it should be done per ton. Sir William Forwood says in 1881 that "There is no cheaper traffic than that between Manchester and Liverpool—it is a continuous flow each way." It is, in fact, the case of wholesale price against retail. But besides that they forget this also, that we should be in a position analogous to the railway company. We are not a mere dock company; we have a longish navigation upon which we are to take tolls outside our docks, to which we want to attract traffic. But it is all nonsense and mere fabrication, as you will find by referring to Mr. Marshall Stevens, upon page 400. There he tells you this, that the London and North-Western Company used to employ stevedores to do the work; they paid them all round a sum which was less than what they charged the public; therefore, the stevedore lived out of that sum, and the railway company made a certain profit; but in 1882, he says, the London and North Western Company came to the conclusion that they might do it themselves for less than they paid the stevedores, and so they took it from the steve dores, securing a larger profit than in charging the public 1s., and giving the stevedore, say 9d.; that is a larger profit than the 3d. by doing it themselves.

Now that, if it went no further, is proof positive that the cost at which a ton of cotton is passed through Garston or Fleetwood involves a profit to those passing it through. But Mr. Findlay, who alone could have proved that there was a loss at Garston—because nobody was called about Fleetwood—does not do it; and not only that, but by the merest accident he proves that there is a profit; and it was very funny—if you look at page 1911 it is very curious indeed. He tells you there the receipts and expenses of Garston Dock for the year 1883. Will your lordships first kindly look at the first item of the receipts, that is for porterage, £38,320? All the subsequent receipts are irrelevant to the issue—"Stores, dock dues, ballast, water, slates, tipping coal at 3d. per ton," all that is irrelevant; the one relevant item is £38,320, which is receipt for porterage. Now take expenses—"Maintenance of dock masts," irrelevant; "Dredging dock," irrelevant; "Depreciation of

dredgers," irrelevant; "Repairs to cranes," irrelevant: "Superintendence," irrelevant; "Wages," irrelevant; "Materials," irrelevant; "Fuel," irrelevant; "Gas, water, stores, plant, &c.," all irrelevant, but the one relevant item is "Wages of dock labourers loading vessels, &c., £34,280." Now take the £34,280 from the £38,320, and you get a profit of £4,040, which is just a trifle under 12 per cent. profit, an unimportant fraction under 12 per cent. profit; and mark that the work there includes all the services rendered or necessary, all the services in the nature of railway terminals; so that a ton of cotton to Garston for the charge of 6d. a ton is taken from the ship's side and put on the railway truck and sent off, at the charge of 6d. a ton, to the owner or consignee, and at a profit of 12 per cent. to the railway company. It is simple demonstration.

Now what do we do? We estimate as our charges not the Garston rates. Again we are over the mark; we estimate 9d. for master porterage, the same as at Fleetwood, and 6d. for quay attendance—in other words, 1s. 3d. We are 3d. over Garston, in respect of master porterage, which would add 25 per cent. to the profits of Garston—it would mean, therefore, a profit to us of 15 per cent. on the transaction. We should make that obviously; but we have not left ourselves the chance of making it legally, because by Section 82 of our Bill we limit ourselves, in charging for these services, to the actual cost of those services plus 10 per cent. to cover profits. So that we should be a little under Garston, and the saving to the cotton trade would be greater than Table 28 shows. I mean that if Garston gives a profit of 12 per cent., and we are only entitled to 10 per cent., our charges must be somewhat under the charges per ton of the London and North-Western Company at Garston, and therefore the saving to the cotton trade in respect of master porterage is considerably more than represented by the saving which gives 9d. for that service, as Garston, with a 6d. rate, yields 12 per cent. profit, and our clause only enables us to charge 10 per cent. Quay attendance, for which 1s. per ton is charged at Liverpool, will be practically done away with, as the spinner or his clerks will be able to see to it himself. However, we have debited ourselves with 6d. per ton for that service to be quite safe, although the charge is needless. That is the way I deal with Sir William Forwood's attack upon our Table 28, which is practically dealing with his Table No. 3, because his Table No. 3 was a counter table that he put in to our Table No. 28.

I have gone, as I promised, through the method by which he reduces our total savings on raw cotton imported in the matter of mere transit £158,000 to £74,157. Now it is for you and your colleagues to say whether I have or not given a conclusive and careful answer to one point after another. If Sir William Forwood is right, how many distinct traders, one and all as important as himself, are wrong upon this matter—experts who know their own business. They have no interest in deceiving themselves in this matter. What on earth would be the use of a perfectly useless scheme to them? This canal would be not the slightest use to them unless it would save them the money they think it will save;

and they would not trouble themselves to give evidence upon it unless they assured themselves that it would do so. They have no cause for mental blindness, but Sir William Forwood has all the usual cases of mental blindness —he has prejudice, as he showed most distinctly; he has self-interest, because he is bound up with Liverpool, and I am bound to add he is not free from that spleen which is evinced in more quarters than one about this scheme.

CHAPTER III.

SAVINGS TO THE COTTON AND OTHER TRADES.

I pass, therefore, from that Table 28 fearless and confident that it has been clearly established by witnesses in support of it, and not shaken by one witness called against it. As to the aggregate savings at the different places, you must judge of that by the consumption of the different places; but you had enormously large figures given you. Mr. Bradbury, speaking for Ashton, in answer to questions ranging from 1339 to 1352, said that it will save Ashton £30,000 a year. Mr. Andrew said that it would save Oldham £60,000 a year in raw cotton alone. Mr. Barlow, speaking for Bolton, said that it would save Bolton £12,000 a year. Now Mr. Andrew gave that answer to Question 1843, and Mr. Barlow to Question 2411. Now upon those three towns alone, and I took them as specimens—and Bolton is not one of the towns we serve most—there is a saving of £102,000 upon the raw cotton imported.

Now this, remember, is on the cotton trade alone, and for three towns out of 18 which are in Mr. Adamson's Table No. 28. Sir William Forwood does not condescend to take into account any of the savings to the other trades, but of what they are you have one or two fair illustrations. Now, on Manchester goods, Mr. Mendel says, speaking of what his former business was: "If I were transacting business as I used to transact it when in business, the saving in my business in consequence of this canal would be £5,000 a year to our firm," that is upon page 265. In answer to Question 3826, Mr. Lieben says it would save him £1,000 a year. Mr. Spencer says it would save Rylands and Company £2,500 to £3,000 a year, that is on Manchester goods. On iron ore, to go to another trade, the saving would be, according to Mr. McNeil, on page 235, on railway-borne iron ore, for some comes by railway and some by sea, and the Bridgewater Canal, the saving would be 4s. 2d per ton. On the sea-borne and the Bridgewater Canal borne iron ore, it would be less—3s. 10d.; and he adds that Manchester is admirably adapted for the iron trade, and only wants to be upon the seaboard to rival rapidly the Tyne. That is Mr. McNeil, a gentleman of great experience in the iron and metal trades—that is his evidence in answer to Questions 3297 to 3317.

Now, as to the manufactured iron trade, there is Mr. Bowes, who appeared as the representative of Barningham and Company. He says it will save his firm £2,000 a year. Mr. Ashbury, speaking for the Ashbury Carriage Company, says it will save him £4,900 a year. Messrs. Platt Brothers, the largest manufacturers of machinery in their own way in the kingdom, says that it will save them £7,500 a year. In the timber trade Mr. Bradford says that there will be a saving of from 4s. to 5s. a ton. In the grain trade Mr. Render says that to himself alone there would be a saving of 4s. 11d. a ton, and conceive what the grain trade of this district must be. Mr. Render says that to himself personally the saving would be £6,000 a year. Mr. Scarborough, speaking for the wool trade of Yorkshire, says: I am certain of a large saving; and he says this is an enormous trade; and Mr. Crossley, who comes from Halifax, says that he pays no less than £8,000 or £9,000 a year in carriage.

With regard to these savings I have only given you a few of those that have been proved. These savings to individual firms or to towns are enormous, and they point to enormous traffic and the traffic of many towns. Do you suppose that these men who come to give these figures, and who have gone into the thing, not suddenly but for a long time, and who give their evidence before Parliament for the second time in two consecutive years, are all unconsciously or consciously blind? And do you suppose, on the other hand, that if they are right and clear-sighted, and know their own business and interests, that the canal will not be made, and that they will not take care that it will be made, and, if made, that it will not be used to an enormous extent? Mr. Warburton says that the consumption of flour alone within seven miles of Manchester is 150,000 tons, and he says the saving on flour would be 6s. a ton. The total saving on this one article of food of the population, within seven miles of one city, would be £45,000 a year. At page 355 he gives the sum total of saving upon other grain, and gives the grand total of saving on the grain and flour trade for this population within seven miles of Manchester only, at £90,000 a year. And Mr. Warburton was not cross-examined.

Lord SHUTE: What is the aggregate saving on cotton?

Mr. PEMBER: That is at the foot of Table 30, on the last line. The total saving on the total quantity of raw cotton only, and manufactured cotton goods, or upon the export trade in and out; but the saving on raw cotton is in Table 28, and that is £158,926. But if your lordship will turn now to Table 30, you will see a summary of the estimate—"Entire savings to the cotton trade by the Ship Canal:" it is on page 30 of the tables, this is the way it is taken. On 508,000 tons used by mills within cartage distance of Manchester, a saving of 6s. 3d. a ton, which is an average of the savings in Table 28, because some of the savings go beyond 6s. 3d. a ton; for instance, Ashton is 7s. 3d.; Manchester, 7s. 8d.; Middleton, 7s. 5d.; Mossley, 7s., and so on—Oldham, 6s. 11d.; the average of the savings we take all through, town by town, at 6s. 3d., though we there go against ourselves—where the savings are greatest it means the greatest consumption, so it is very much against ourselves, if we put down the average savings at £158,926 upon the raw material.

Then that again is on the supposition that we charge the maximum rates upon the canal, but in taking credit to ourselves for income I have always been careful to calculate only 5s. a ton as what we should receive —if you remember, I did that in my opening speech, so that on the supposition that we only charge 5s. on canal toll and wharfage, it would be a saving of 1s. a ton, and it would give us an extra £25,440. Then there is the avoidance of one brokerage, 6s. a ton, £152,000—lower charges for dock quay services; then those charges at Liverpool, say 6d.; average saving per ton, 14s. 9d., making a total of £387,887. Then we add a very small sum, that is unimportant, for the spindles, in Yorkshire of £9,000, making a total saving of £397,246. Those are the total savings on the imports of cotton. On the exports you see that we save £110,000, nothing nearly so large—that brings up the grand total of saving in the cotton trade to £508,035. It is worth remembering that Sir William Forwood never touched the question of outward cargo. He showed that we should only save £74,000 on a limited quantity of raw cotton imported reducing the savings in the unwarrantable way suggested by him, but he takes no heed of the facts that there is outward trade to be considered also. But when you asked me a question about Table 30 I had just said that the saving in the grain trade and the flour trade was no less than £90,000 to the population within seven miles of Manchester. Upon that question of cheapening food Mr. Fielden said there were 3,000,000 persons at the present time making Manchester their food market. He is not cross-examined on that point at all. Every man, he says, over the United Kingdom consumes £5 sterling worth of imported food. Each man, he says, of one sort or another consumes 6 cwt. of imported food in the year—it seems a great deal, but it is not much when you come to divide it by 365; it comes to 1lb. 9oz. per day. The import into Liverpool of flour or grain 1,822,000 tons, provisions 527,000 tons, fruit 68,000 tons; in all a tonnage of 2,417,000 tons. Now, roughly, 2,400,000 tons represents 48,000,000 cwt., in other words food according to that calculation for 6½ millions of men. Now Mr. Fielden also says that he knows statistically that the working man feeds himself 15 per cent. cheaper in Liverpool than he does at Manchester, that is at page 119. Now if Manchester as a port did no more than serve the 3,000,000 people as a port which she now serves as an inland market, see what a benefit she would confer; but conceive how the benefit would be quadrupled if, as a port, she helped in that way to save 15 per cent. to a vastly larger area of population.

CHAPTER IV.

DEPRESSION IN TRADE—FOREIGN COMPETITION.

Now I might ask after all that, have you any doubt as to the volume of the trade, or any doubt as to the saving to be effected, and were you misled by the trumpery evidence on the other side as to the impor-

tance of either table by Sir William Forwood or Mr. Findlay? By Sir William Forwood, who has the courage to insist that the cotton trade is prosperous, in the face of the traders who come and tell you not only that it is the reverse to the manufacturers but that its very existence is at stake! Not only does the trade tell you that; you might have thought perhaps that they were unduly discontented with the profit they make; but Mr. Hall, Lord Stamford's agent, is perfectly independent of the traders. We called him, and he says, at page 229, how very great the depression is. He is a justice of the peace, and there are 70 cotton mills upon the Stamford property. Then he says, in answer to Question 3172, "I understand there is great depression in the trade. The cotton spinners complain much of the bad trade, that is, that they have had no profit. They have been carrying on their concerns without any profit or with very little profit. (Q.) Have you felt the effect of it at all upon letting land?—Yes, I think there is no doubt about that. We have not sold anything near so much land for mills and other objects connected with trade during the last six or seven or eight years as we did previously," and then he talked about the high rates upon which I do not want his evidence; but he says distinctly that depression is widespread, that his employer, the owner of property, suffers from it, and further he says that he fully believes in the canal. Mr. Spencer, of Rylands and Sons, says that foreign competition grows more and more, and becomes more burthensome every day. Mr. Thomas Wilson says, speaking of Indian competition, what the growth is, and says how this canal would involve a shifting of the lines upon which we can compete for the supply not only of India but of the market which India underselling us, is beginning to supply; yet Sir William Forwood comes forward and tells you, in the face of these gentlemen, that the trade is not pressed by foreign competition; and he tells you this in the face of gentlemen who came and spoke to the very nations who undersell them, and tell you the markets in which they are undersold. Mr. Lieben tells you that Switzerland undersells him in the Italian markets, that Austria undersells him in the Servian markets, and he says that a saving of 5s. a ton will just enable him to compete. Mr. Walmsley says France, Germany, Spain, India and the United States are increasing their spinning power by vast strides at the expense of England; he tells you that the English exports to Japan in 1880 were 27,000,000 pounds of yarn; in 1882 only 19,000,000 pounds of yarn—a decrease of 30 per cent. He tells you that the Indian exports—in the decade we have just passed through—had risen from £121,469 to £1,330,051 odd; in other words, a rise of 1,000 per cent., and all that in those very markets, China and Japan and the Straits Settlements, which India supplies and we used to supply. Mr. Ogden says large concerns work at a profit of 1d. upon 8s.; is not that making the trade a very near thing? Mr. Ogden shows that the Indian yarn exportation was greater in 1883 than in 1882. Mr. Walmsley had only carried it down to 1882; Mr. Odgen takes it to 1883, and he says it was 1,870,000 against Mr. Walmsley's 1,300,000, and he says the Indian cloth between 1872 and 1883 had gone

up from £1,000,000 to £2,000,000. What is the use of Sir William Forwood attempting to gainsay such figures as those? This same gentleman, Mr. Ogden, who I may parenthetically observe, says that 32 concerns out of 40 have lately gone down—shows in cross-examination by my learned friend, Mr. Bidder, who wanted to tell him that 5s. a ton was a very small thing, that it was sufficient to turn the market against us ; 5s. a ton which Sir William Forwood thought enough to turn the trade in 1881, and make them choose one route instead of another, Mr. Fielden says that the loss upon capital in the Cotton Trade in the years 1877, 1878, and 1879 was no less than £20,000,000 sterling. Mr. Ogden also shows that the saving of 5s. a ton, which Sir William Forwood in 1881 thought would be enough to turn the trade, is to be calculated, not upon the value of £150 per ton of the product produced, but upon the profit made, and that on the profit of 2 per cent. an addition of 5s. is an addition of 12½ per cent., and if, as Mr. Ogden says, he would readily sell at 1 per cent. commission and be thankful—then 5s. a ton is an increase of 25 per cent. upon his profit.

That is the way to test our 5s. a ton. What does Sir William Forwood mean by telling you 5s. is unimportant, if, as he said in 1881, it is enough to turn the whole trade from one road to another?—Merchants do not dislocate a large trade for unimportant trifles. Mr. Woods, of Warrington, shows the competition in the wire trade for Australia, which is a very large trade, a competition between Germany and England for the supply of our own colony; he says the wire starts from London in Australian ships—it comes from Cologne to London for 11s. to 11s. 6d., and it costs him from Warrington to London 17s. 6d., in other words 6s. or 7s. more. Germany, he says, cannot produce it cheaper, but it is the transit that beats him. That is all upon the question of the saving by transit, and the enormous value which the saving represents that it is in the last degree necessary to say to you.

CHAPTER V.

EQUAL SEA FREIGHTS.

But, your Grace, there are other points in the case which touch upon the question as to whether we shall save which are very important, and those I will deal with one by one. There is a question whether we shall have equal freights to Manchester as to Liverpool ; that, of course, is a crucial test. If Sir William Forwood were right, and we should have to pay more upon freights from America, for a few hours extra journey to Manchester than to Liverpool, which seems absurd upon the face of it, some of the gilt would be taken off our gingerbread ; but see how the evidence stands upon that point. No less than 14 witnesses of

great experience have given the most positive evidence upon this point in our favour, namely, that the freight will be equal—seven of these are shipowners, and these are not mere opinions that they volunteer. They give you a string of most conclusive facts and illustrations. The sort of gentlemen who give evidence are these—I do not think I have taken them all down: Mr. Spencer, of Rylands and Company, obviously import and export merchants of great experience, whose trade is on a scale of very great magnitude; Mr. Bradbury, of Gartside and Company, of Ashton; and a very considerable person is Mr. Leigh, of Stockport, a large spinner and direct importer of cotton; Mr. Wilson, of Nasmyth and Company; Mr. Behrens, of Sir Jacob Behrens and Company, Manchester and Bradford; Mr. Lieben, of H. P. Nathan and Sons, Manchester: Mr. Woods, a wire manufacturer, whose evidence I have quoted. Then I come to the shipowners. I come to Mr. Browne, a shipowner of Glasgow, a thoroughly well-known shipowner in a large way; Mr. Marshall Stevens, a steamship agent of Liverpool and Garston; Mr. Edwards, a shipowner of Cardiff; Mr. Raeburn, the chairman of the Clyde Steamship Owners' Association; Mr. Scrutton, of London; Mr. Hutchison, an equally well-known steamship owner of Glasgow; Mr. Macdougall, of Lindsay and Company, shipowners, Greenock. Now here is an array of most positive evidence of the very strongest and the most substantial order, which no mere negative evidence can possibly gainsay. It is no use Sir William Forwood coming forward to say they will not bring their ships—they come and say they will—what is the use of his saying they will not? Mr. Browne says a couple of days will make no difference; he says he charters vessels loading at San Francisco or Calcutta, as the case may be, to call at Falmouth for orders. Mr. Marshall Stevens having previously explained to you the system of ports of call—then Mr. Browne says, I send them to Leith, to Limerick, or to Liverpool at equal rates. Now, I pause to say this: what would there be comparable in a voyage up to Liverpool from Manchester to the difference of a journey coming from Falmouth to Limerick, and Falmouth to Leith, or Falmouth to Liverpool? Mr. Marshall Stevens says the freights to Liverpool, Runcorn, and Garston are all equal now. That is a small case, but precisely in point—the freights to Liverpool, Runcorn, and Garston are all equal now—Runcorn and Garston with their navigation in such a condition that if the ship loses the spring tide at Runcorn she has to wait 10 days, and yet the freights are the same. Mr. Marshall Stevens tells you that a day up and a day down only means 6d. a ton upon a 2,000 ton steamer, and he says further that ships amounting in the aggregate to 230,000 tons register and 750,000 tons burthen now use Runcorn at equal freights with Liverpool. Further, Mr. Marshall Stevens points out what I trust your Grace has not forgotten, that is that we have a large reserve fund of revenue in the dues which the ships pay. We have only calculated our revenue for the purpose of this investigation upon the amount paid for the goods. The reason we have done that is this: that the present actual dues upon ships at Liverpool are the same as the maximum dues upon ships

upon our canal which we take powers to charge; therefore, as ours was to be a comparative list of charges between Liverpool and Manchester, we did not think it worth while to go into the question of the charges upon ships, but not the less is it a source of income, and if ever I say I shall derive from such and such a trade £500,000 a year, always understand that there are rates upon the ships to be added which come to £180,000 more calculated upon the same basis. Now in that receipt of rates upon ships we have a reserve fund of revenue upon which we can draw—if the shipowners did come to us and say, we ought to have a little more for the navigation of this channel, we have a fund amounting, in some cases, to 1s. 8d. a ton to draw upon. We shall say, you shall not pay 1s. 8d., but 1s., 9d., or whatever it may be; and if so see where we are—we do not draw our revenue down beyond the minimum point it is necessary to prove to you, but we utterly destroy any chance of damage to ourselves by an increase of freight between Liverpool and Manchester. Do not understand this as a confession of weakness upon my part. I do not believe in it, but I point out that it is possible.

Then Mr. Edwards, a shipowner of Cardiff, gives a table of equal sea freights upon page 777. Now kindly turn to that; all these are equal freights. The first pair, Cronstadt and Antwerp, four days longer to one than to the other. The next is Malta, Constantinople, and Odessa, six days longer to Constantinople, and eight days longer to Odessa than to Malta. The next two are Gibralter and Malta, four days longer to Malta; Newport (South Wales) to Liverpool and Cardiff to Liverpool, 15 miles longer from Newport; Galveston and New Orleans to Liverpool, one day longer from Galveston. Bombay to Marseilles, Hull, and London—London 10 days further than Marseilles, and yet the same freights. Is a ship going to spend 10 days upon our canal getting up and down? London to Calcutta and London to Bombay, 10 to 12 days further to Calcutta than to Bombay, and yet the freights are equal! "London to Hong Kong, Yokohama, and Hiogo steamers are 10 days longer reaching Japan after they arrive at Hong Kong; Liverpool, and London to Genoa or Trieste 10 or 11 days further sail to Trieste, Norway, Antwerp, or Hamburg to Grimsby." There is the navigation of the Humber to Hull, 30 miles further up the River Humber, and to Goole 50 miles further up the River Humber, often having to wait a day for tide to Goole up and down; and yet the same freight. I should like to know whether the 50 miles to Goole is a bit better than the 30 odd miles between Liverpool and Manchester, and so I may go through all that table; but I have gone through enough.

Now one statement of Mr. Edwards is particularly instructive—he says, competition forces us to deliver cargoes near to the point of consumption—a few years ago almost all the American trade went to Liverpool—now it goes to various ports all round the country which serves an area of 30 or 40 miles round—that is upon page 779. Mr. Raeburn explains certain special causes, such as the heavier dock dues at Glasgow, which may sometimes involve differential rates as between Ardrossan and

Glasgow, which my learned friend Mr. Pope rather tried to get from Mr. Browne—that is not important, and I pass it over. But Mr. Raeburn did admit this, that the rule is for the freights to be equal to those two places. Mr. Scrutton says I should send my steamers to Manchester first, because I should get better despatch; secondly, because I should have a better chance of return cargoes; thirdly, because I could not be worse off in the particular of return cargoes at Manchester than I am now at Liverpool; and he goes on to say, I should treat Manchester as a safe port. Ports differ now considerably in expense, but it does not alter the freight. That is at page 791. Again he says, later on at page 796: "Do you seek return cargoes from Liverpool? —For our sailing vessels most. (Q.) Do you for your line of steamers seek for return cargoes from Liverpool?—No I have not done it;" and he says this upon the matter of cost on page 795, Question 11867, that the cost of a 1,700 ton steamer is £18 a day; 6d. a ton demurrage is what I get from the Government, and it is splendid pay, and he says I should make no difference between Liverpool and Manchester, and Mr. Aspinall, putting it that the freights are lower now and he would go anywhere to earn a sixpence, he says I would not make any difference in good times. You must either believe that man or disbelieve him. Upon that point I should like to hear my learned friend, Mr. Pope, explain logically to me the difference between the distance and delays in this matter of equal freights—he said to your lordship, with a show of profound conviction which sometimes overcomes him, My lords, it is not distance—it is delay, as if there was any difference. What does delay mean? Time. What does distance mean? Time. I cannot see the difference between the two. They are convertible terms for this proposition.

Then Mr. Hutchison says, 50 or 100 miles further by sea, canal, or river would make no difference in freight, and he explains to my learned friend, Mr. Aspinall, that the difference between Ardrossan and Glasgow when trade was good was about 3d. per ton, but that the difference in the dues saved was equal to 9d. or 10d.; and that, therefore, it was a matter simply of a cheaper port. "(Q.) That was a question of about 3d. a ton? —Yes, it was a difference in our calculation of the expense. (Q.) Are you speaking again of one particular case or generally?—I am speaking of several charters offered to me"—iron ore charters. "Have you acted upon any of them?—Yes, ore charters; it is only ore goes to Ardrossan. (Q.) Which did you go to—Ardrossan or Glasgow?—We choose Glasgow at the 3d. a ton extra?—Yes. (Q) What sort of goods are imported into Havre chiefly?—Chemicals from Glasgow, iron and oil, and there are bale goods of all sorts." Then he is asked about cotton, "Does the cotton which goes to France now go direct to large manufactories at Rouen?—Yes, I think so." This gentleman has a house at Rouen, and therefore knows what he is about. There may be certain persons whose method of doing business is peculiar, and we may have certain charter parties printed which except Rouen, but it is not the usual practice of

the trade; he says it makes very little, if any, difference in the freight. "As at present we carry goods from Havre and Rouen from Glasgow and other ports and for Cadiz and Seville, in all cases they are much less; the one is at the mouth of the river and the other up the river. (Q.) In each case you have given a port at the mouth and a port up the river and the freights are the same?—Yes. (Q.) You have had constantly freights offered, have you not, for Ardrossan and Glasgow?—Yes; we have had occasion to offer our boats for charters for an ore freight from Seville." Why Seville crops up is on account of the Spanish iron ore, which is mixed with the Scotch ore. Then he says that in good times there was 9d. or 10d. difference in the saving in the dues; he absolutely denies as distinctly as a man can deny—and as they make such a fuss about it, I will point your lordships to it—he absolutely denies that there is a fixed difference between Rouen and Havre for grain—that is in answer to Question 12025, and one or two questions following on up to 12037: "Do you know anything about corn in reference to that matter" (that is with reference to the difference of freight between Havre and Rouen)? "Do not you know absolutely that there is a fixed difference of freight as between Havre and Rouen for corn?—No, I know the very opposite." Mr. Hutchison has an office of his own at Rouen. Well, all I can say is that these charter parties which they produce are honest charter parties, no doubt, and there may be a certain set of men who do their business in that way; but Mr Hutchison, who has a business of his own at Rouen, knows there is no such thing as a fixed difference—he says: "I know the very opposite. (Q.) That it is the same?—Yes. (Q.) From where?—These are all ordered to the United Kingdom or the continent, and a little more is given for the continent, and it includes the towns of Havre and Hamburgh; they are all bonnd to go to any port there. (Q.) You know that?—I know that because we have had vessels consigned to us in Rouen, and the freight is the same. (Q) For corn?—For corn. (Q.) Where from?—Once from San Francisco that I speak of particularly. (Q.) Was she to call for orders?—She was to call for orders at Falmouth, and was ordered to Rouen and was consigned to us. (Q.) In that case the freight was the same?—The same at any continental port along that space from Hamburg to Havre." You cannot get out of that, you know.

CHAPTER VI.

THE NAVIGATION OF THE ESTUARY TIDES; SIZE; AND MASTS OF VESSELS.

Indeed, the evidence against us upon the subject of ships navigating the channel, either conditional or otherwise, goes a great deal too far, and Admiral Grant, though I am anticipating in going into this upon

the question of danger and time, and the question of the height of the masts, but here it is worth while to say that Admiral Grant is a type of the point to which they carry the evidence against this channel. His evidence is to the effect that vessels must navigate the Mersey upwards and go through the channel upon a falling tide This would doubtless have for a result that they would be in the channel for some period after high tide, some period approaching more or less nearly towards low water, when our depth would be seriously reduced, and the object of the evidence is clearly to show that the canal would only be used by vessels coming up under those conditions; that is by vessels of a moderate draught, but vessels of considerable size go up on the flood to Garston and even to Runcorn, as I showed you from Mr. Marshall Stevens' evidence, who showed that a tonnage of 230,000 tons goes to Runcorn. If they did not they could not get there at all, because Runcorn is inaccessible at anything like low water, so it is proof positive that the only way of going up is upon a flood tide, and if they do not go up upon the flood tide they could not get there; so that the impossibility of going up with the flood and on the one tide is incompatible with the facts, and, in fact, one might ask generally, if a vessel cannot go up the estuary on a falling tide to an inland port, then other inland ports to which the low water channel went would be unworkable, because it would not to many of them ever be reached. How could vessels ever get to Rouen, or to Glasgow, or up the Tyne, or up the Tees? Surely the Tees is as exposed as the Mersey; it is exposed enough for anything, and it is the first time I have ever heard it suggested that there is any particular amount of snugness in the Forth of Clyde. But the impossibility of getting up upon one tide was never suggested to the various owners of the steamships who came to say they would send their steamers up to Manchester—it is all reserved for the substantive evidence of the shipowners, or one or two sea captains who say it is dangerous. After all, I wonder whether the run up the inner reaches of the Mersey is worse than to run over the bar and into the Liverpool Docks, and yet vessels do that in the dark. This scheme has been before the shipping community now for more than two years, and if there was this danger or impossibility of getting up on one tide, and it were real, do you suppose that it would not have occurred to them, or that they would not have recognised it? Of course they would. And yet they come one after another, seven or eight of them, until you are tired of listening—Messrs. Browne, Raeburn, Scrutton, Hutchison, and the rest, come to say they would send their ships up to Manchester at the same freight as they would send them to Liverpool. What interest have they all got in this scheme? Nothing whatever—not one is a promoter. Why should they come from various ports and give evidence for the scheme? Why blind themselves to such an essential blot as that? They have no interest in it—they put no money into it—they have not subscribed a shilling to the Parliamentary expenses—they have all got reputations as shipowners and tradesmen to keep up; they have no interest to serve—what are they here for? Their very presence carries conviction, unless

you suppose they are ignorant men. And, moreover, most of them have no connection with Manchester. They are perfectly unbiassed and perfectly independent. I say in being unbiassed and independent, and having no connection with Manchester, they are very unlike Sir William Forwood, and very unlike Captain Kennedy, of the Inman Line, connected with Liverpool, and very unlike Mr. Captain Inglis, of the Cunard Line, all excellent men, no doubt, in their way, but Liverpool to their very backbone. The truth is, that they know that we have never asked upon this canal for the presence of large passenger liners which Captain Inglis and Captain Kennedy represent, namely, the Inman and the Cunard liners; they are not necessary for our success. They are not cargo ships in the true sense of the word, though they carry cargo—their essence is to carry large passenger traffic; their accident is to carry goods. Every merchant ship proper in existence, and every cargo ship proper, that is essentially a trading ship, says Mr. Marshall Stevens, can use the canal. And he is not cross-examined on this point. As a matter of fact, he says the general trade of the world, which is what we hope to get our share of, is carried on in ships of from 1,000 to 2,000 tons nett—95 per cent. he tells you—(that, again, is unchallenged) of the actual shipping in the United Kingdom is under 2,000 tons nett. Mr. Marshall Stevens again—for I can understand the dislike of the other side to him, and, as he is not in the room, I may say he is one of the ablest and best-informed gentlemen in his own department of trade that I ever came across—put in a list of the ships in dock in Liverpool on a certain day in 1883. Now, I had his list copied out. He says that there were 252 ships in the 32 docks, eight were over 3,000 tons, 19 over 2,000 tons and under 3,000 tons, and 22 out of 252 were from 1,500 tons to 2,000 tons. Now, you see, in fact, there were 49 ships only out of 252 which were over 1,500 tons, and only eight over 3,000, and only 27 over 2,000 tons. Every ship, he further says, that arrived at Liverpool with cotton from the 1st January to the 1st March, 1884, could go up the canal with a slight alteration of masts. Then that will do for us—that is all we want. We do not want the Cunard and the Inman Liners, and if Sir William Forwood does not like to send his 10 or 12 steamers, let him keep them away. These facts were spoken to a month ago, and there is no attempt to contradict them. It is no answer to such evidence as this for a gentleman to bring a diagram which contained two or three large ships, whose rig, if altered to a certain point, would just allow, as a matter of fact, the ships to go laden under the bridge. Very well, if that be so, if it is such a near thing they will not come, or if it be possible to alter them materially they will come with that alteration, otherwise they will stay away. If I want the general trade of the world, or a share of it, and that is carried on in ships of 1,000 to 2,000 tons nett, 95 per cent. is under 2,000, and if I get my share of it, I do not care two straws about any shipowners who cannot or will not alter their ships to pass Runcorn Bridge. We do not expect large passenger steamers to come—if they have certain ports for certain lines of steamers, certain lines of trade will keep there. Says the Cunard

owner again, or the Cunard captain, My steamer shall not come. Mine shall, says Mr. McDougall; we set Mr. McDougall against the Cunard captain. Mr. McDougall says, All my steamers would come up the canal by striking their topmasts, and they range from 1,592 to 3,021 tons; in order to make them come down we shall have to alter the masts of two of them 6 inches, but we should not content ourselves with the 6 inches alteration; we should give five or six feet margin at once. That is the sort of evidence upon which we rely, the general evidence of the traders, of the possibilities, the probabilities, and the value of the trade, and you may depend upon it, if we upon our side show them that we have a trade, plenty of other shipowners will follow the general example of Mr. McDougall. Every one knows that the competition is keen enough in the carrying trades as one or two of us holding shares in carrying companies know to our cost, and that being so, a few enterprising men will not be allowed to keep Manchester to themselves.

So I may pass at once to the question I have led myself to, namely, the height of the masts, and really I ought not to labour at it much, because my learned friend, Mr. Pope, who is certainly always perfectly candid, and a very good judge of the strong or weak points of his case, and never afraid of admitting weak points, said this:—"That is all I will say about masts—there is not much in it," and there is not. Mr. Marshall Stevens says that all vessels using cotton ports could use the canal with slight alterations. Mr. Alexander Adamson, late chief constructor to Messrs. John Elder & Co., of the Clyde, and now manager to Palmer's Shipbuilding Co., at Jarrow-on-the-Tyne, says that 3,000-ton vessels, with topmasts lowered, can pass under Runcorn Bridge—that is in answer to Question 11338—he says it takes 1½ hours to lower the topmast, 2½ hours to do the lot; 95 per cent., he says, of the steamers upon the Liverpool registry could pass under the bridge without alteration, and 5 per cent. would have to be altered, but I do not care whether they alter or not. He says a clear headway of one foot is enough under the canal bridge, but he says they will want three feet at Runcorn Bridge on account of lift. He put in a table of 326 cargo vessels which have been recently built by Elders and Palmers, from 585 tons to 2,776 tons, which is the largest, and he says these are the most likely vessels to be used in the canal, being all purely cargo vessels, and they could all do it; for he says 34 of these could pass under the bridge loaded, and 21 pass light, or loaded without alteration. I would ask you to remember this, that when light they would require less water, and therefore find more headway, and go down at a time of tide when there was not much water. It is only in the highest spring tide that we get so low a headway as 75 feet. But it is an essential fact in this case, if you show me that I have not water enough to come up or go down loaded or light either before or after high water, then I get a better headway at once; and the point that was put to one or two witnesses, that a ship going down light would strike the bridge that would not strike going up loaded, is fallacious, for that reason. It is fallacious for another reason. The system of water ballast enables a

ship to make the load line constant. Mr. Leader Williams says there are 40 feet at high water under his bridge. Captain Hills says that in the first two hours the tide only falls seven feet. This water ballast is used to keep the load line constant. Mr. Adamson, in answer to Questions 11395-6, says this water ballast can keep the load line constant, if it was necessary to get a certain headway—I can if my ship is going down light let in water ballast and bring her down to the original load line, and he says that is constantly done. Then Mr. Adamson gives you that important evidence that a 3,000-ton vessel could have its masts altered for £130, and a 1,400-ton vessel could have its masts altered for £80. Now my learned friend, Mr. Pope, suggests that a man who is at Garston thinking whether he should come to Liverpool or Manchester would not incur that expense, but would go to Liverpool rather than Manchester, possibly for one voyage. Bnt we do not consider the alteration of a mast for a single voyage, but for a man who is going to do a trade regularly ; and Mr. Adamson also tells you that the working of these masts, when once altered, can be done so easily that it might be done while the ship is loading. He also tells you that the water ballast would let the ship come down light with the same headway that she came up loaded. Captain Pearson, of Liverpool, says there is no difficulty striking yards or masts, and my learned friend, Mr. Pope, agrees with him when examining him as to the cost of altering masts, and Mr. Macmillan says that 80 per cent. of the vessels built by Inglis and Company, Glasgow, during the last 20 years can go under Runcorn Bridge without alteration. Captain Pearson says the tendency is to decrease, and not to heighten the mast, and that 68 feet 6 ins. is ample.

I will give you that reference ; it is given on page 772, in answer to Question 11557. Then Mr. Macmillan, constructor to A. and J. Inglis, says that 45 per cent. of all the steam vessels built in the Clyde, Tyne, Tees, Wear, and the Hartlepools in 1882 were under 2,000 tons. He says that all these would pass under the bridges with lowered topmasts, and 90 per cent. of the total tonnage of the kingdom could use the canal. He is of opinion, he adds, that vessels of 4,000 tons can be so masted as to pass under the bridges. Your lordships may think that that may be going a little too far ; but this gentleman is the chief constructor of Messrs. A. and J. Inglis, the great shipbuilders, and his opinion on that point is surely entitled to weight. But man after man of the greatest possible eminence comes and tells you such facts as these, that practically 90 per cent. of the total tonnage of the United Kingdom could use the canal. What more do your lordships want in the way of evidence upon that point ?

So much, therefore, for the masts. As to time, in my cross-examination of Captain Graham Hills, I proved that there would be lots of time to get up the canal, and that if a ship got there an hour or two before high water it could do it easily. I find I made a note of what Captain Graham Hills told me a little later on ; but before we go to Captain Graham Hills I will take Captain Pearson. He says, in answer to to Question 11511 : " I have gone over the ground, and I find there will be no difficulty in a vessel drawing 22 feet of

water crossing the bar and reaching the entrance to the canal proper one hour before high water." That is Captain Pearson's distinct evidence. Therefore, when a vessel got there an hour before high water, she would have more headway. He says he would take a vessel in two hours, at the rate of 5 knots an hour, from the Liverpool Docks to Runcorn with a current of $2\frac{1}{2}$ knots. The channel, he says, is safer than the Clyde between Greenock and Glasgow; and he says the rate of speed allowed in the Suez Canal is 4 to 5 knots. These answers are between Nos. 11536 and 11566. Then Captain Croft says he has had experience of the Amsterdam Canal, the Ghent Canal, and the Rotterdam Canal, and there would be no difficulty, he says, in navigating this Ship Canal. He says, I would take a vessel up to Runcorn upon the flood tide, and it would be quite safe, and that a speed of seven knots, including the tide, would be quite safe. Then Mr. Leonard, the shipowner of Middlesboro', said, if ever a ship went on the training walls it would be by reckless navigation; those are our witnesses upon the point.

Now, I come to the opponents' witnesses. Captain French says that it is true that the vessels must have their masts specially arranged, but he does not say it cannot be done; all the ten vessels which he commanded could pass under the bridge by lowering their masts. Mr. Alexander goes no further than the necessity for the alteration of the masts; and there is no question as to the costs of the alteration until you come to a gentleman named Roydon, who says it will cost £200 a mast, but nobody supports him, not even his own counsel. But he says, in answer to Question 21492, that fidded masts are quite safe and handy, which I was very glad to hear from an opponent, and he gave in a list of vessels 115 in number, and he says in answer to Question 21504, that all the vessels in this list of 115, except the very largest, could pass if they had fidded masts, which he had previously said were safe and handy.

Then comes another gentleman named Hoult, and he says he would not hesitate to alter his masts if he saw his way to making them pay. So much for the opponents' evidence upon masts. I admit they are the choice bits culled from their evidence, but the men they called to curse us stayed to bless us in those particulars, and after the evidence we gave from many competent persons, I ask you, have you any longer any doubt, as far as the height of masts goes, that this canal with the bridges can be perfectly easily used?

Now, let us see what our opponents say on the question of danger. Captain Graham Hills was called as to the danger of going up in the dark—he says there is such a thing as the winter season in Great Britain, and it gets dark in the afternoon early, and it does not get light till a late hour in the morning; but he forgot that that is a natural phenomena extending to the Tees, the Tyne, the Clyde, and the Liverpool bar, and he admitted that all these rivers and the Liverpool bar were navigated in the dark. Captain Graham Hills said the danger was considerable, and that there was a chance of running on the training wall—which had been most distinctly denied by our witnesses, who said if it did happen it would be owing to reckless navigation—there had been one accident

on the Tees, and one on the Amsterdam canal, but Mr. Thomas Stevenson, the engineer, who knows something of it, had previously said there was no danger to ships in low training walls—he says, "I am not aware of a single instance of a ship fouling a low training wall." How could it? Our training walls for 9-10ths of the distance will be below the level of the sand, and the sand will be "toppling over" into the channel as they say upon the other side, at all events they admit that it will be above the training wall. They may knock up against them, but they cannot rest upon them. But it is a curious thing that Swansea, Cardiff, Newport and Bristol, though some of these places are up trained channels, and some are not, have all equal rates of insurance. Now if there were any danger in navigating these rivers, there would have been a different rate of insurance. Captain Kennedy says: "I can give no instance of a ship going across a training wall." He says that at times ships go ashore outside the Mersey. It looks as if outside the Mersey was a far more dangerous place for ships to get through than the channel bordered by training walls. Admiral Grant gave his evidence under the impression that the water would always be between the training walls, confined between the walls at a lower level than the tops of the walls, and he said a great deal about bumping and being bilged, but he admitted that if there was a large body of water over the estuary the danger will be then much lessened, and Admiral Grant then admitted that there are no bad bends in our channel as in the Suez Canal. Mr. Ashworth, another witness, said he knew nothing of the upper estuary of the Mersey, and had not piloted a ship to Garston for the last 17 years, and he also admitted that ships of 1,500 and 1,800 tons do go to Garston now. Therefore, you see, big ships do go through the estuary of the Mersey at present, except the bit represented by our wall channel. The whole thing is resolvable into this: Our channel is a funnel 10 miles long; it is 1,000 feet at the widest end, gradually narrowing to 300 feet at the very narrowest, so that there is an average width of between 500 and 600 feet right through. Are you going to suppose that ships cannot steam up a wide deep place of this character without getting aground, when it is going to be well beaconed and buoyed, well lighted, and with no bad turns?

Now, as to time, Captain Graham Hills' cross-examination, to which I will refer, is perfectly conclusive. He admitted on page 1086 that if the ship arrived at the bar at the proper time she could do it. That is in answer to Question 15943. "Now as to the possibility of a vessel coming in and passing over the bar and getting up to the canal in one tide, what do you say as to that?—It is possible undoubtedly that a vessel might do so under certain circumstances, but before she can meet such circumstances she must arrange her voyage to be at the bar at a certain time, and it is not possible that a vessel—say a cotton ship from New Orleans—can at starting time her arrival at the Liverpool bar so as to go straight over it. The chances are certainly against it, so that in nine cases out of ten in all probability she will reach the bar at a time when she cannot go over it." I dare say she cannot time herself so to arrive if she is going to Liverpool, and if she does not time herself

what happens? The docks at Liverpool are only open one or two hours after high water, and if she does not arrive at the bar before high water there is not time to get to the Liverpool Docks to go in, and she will lose her tide; therefore, she is as badly off in getting into Liverpool as she would be in going up this channel. If she arrives at the bar at the right time, she can go up my channel; if she does not arrive at the right time, she cannot go into the docks at Liverpool either. But Captain Graham Hills gives the time taken from the bar to the Rock Lighthouse upon the next page as one hour, and that is to do eleven miles; from the Rock Lighthouse to Garston he gives two hours, but he says she has got to get through the shipping opposite Liverpool; he says it will take an hour and a-half to two hours—Garston to Runcorn he puts at an hour and a-half; that is 4½ hours. Now he says a ship drawing 20 feet of water can pass the bar at 3½ hours after flood—that he told me himself—that is on page 1090—that is to say, two hours before high water. I asked him what it meant, and he said when I put to him, "She has to arrive at the bar, as I understand you, 3½ hours after flood?—Yes, to cross the bar. (Q.) How much longer will the tide still have to run at the bar then?—About two hours or a little less than two hours." That being so, I say how long will it be before high water at Runcorn, and he says: "It is high water at Runcorn one hour and five minutes after high water at the bar for the high spring tide," though last year he gave one hour and fifty minutes, but I take it at the lowest. Add that to the two hours before high water. If she can draw 20 feet, and pass the bar according to his original showing, she has three hours and five minutes out of 4½ hours required to get to the channel; in other words, she will reach our channel at one hour and 25 minutes of the ebb. At that time I should have plenty of water in my channel; at spring tides I started with 40 feet, and Captain Graham Hills told me, with regard to another matter, that in two hours' time the tide only fell six or seven feet at Runcorn, therefore I should have water enough, and also greater headway. I should have six or seven feet added on to my 75 feet, but from his own showing I may be much sooner at the bar, and yet have plenty of water, because at 3½ hours he tells me I shall have 31 feet of water; at 4½ hours before high water he says I shall get 24 feet. In answer to Question 15985, on page 1090, I ask him, "How much before high water should I get 24 feet?—A little before 4½ hours. (Q.) At 4½ hours before high water at the bar I should have 24 feet?—Yes. (Q.) To that 4½ hours I have to add one hour and five minutes, the difference between the bar and Runcorn?—Yes."

Mr. SQUAREY: That was corrected the next day by Captain Graham Hills to 16 feet from 24 feet.

Mr. PEMBER: If he did correct it I cannot rely upon it, but I content myself with the original calculation. If he corrected it, the argument I founded upon it would fail, but I will stand upon the other; he says I should get 31 feet of water at two hours before high tide—it is obvious there must be some time at which I should get something like

what I wanted ; if I had three hours before high water, I should get 24 feet—then that will do for me. Supposing I have 24 feet upon the bar for three hours before high water, it would enable a ship drawing 20 feet of water to have three hours before high water at the bar plus the one hour and five minutes, the difference between high water at the bar and Runcorn, that is four hours and five minutes, instead of three hours and five minutes, which would bring me 25 minutes after high water at Runcorn Bridge, when I should have abundance of water either way; it adds one hour to two hours, and it gives me one more hour to get up to Runcorn before the tide begins to fall, instead of the tide having fallen one hour and 25 minutes it will only have fallen 25 minutes, and that gives me abundance of water.

Now, there is a point which I want you to remember, that ships arriving from America draw less than when they started ; and that is where the question of water ballast comes in. Ships arriving at the bar coming from America draw much less water than they drew when they started from Galveston, because their bunker coal has been used. There is a twofold position ; but one of the witnesses in answer to question 19788, says they draw 18 inches less, so that I want 18 inches less water over bar, and I can therefore go over the bar at a period when it has 18 inches less— that is, further off high water, and then when we get to Runcorn, there being lots of water in the channel, I can take my water-ballast in and bring my load-line down again, and so get my headway back. Now, after all this, some of the opposing evidence really sounds charming. Mr. Hoult at first said the difference of time between Manchester and Liverpool would positively be three days to get from Liverpool to Manchester; he afterwards said that was not enough, and corrected himself to four days—four days to go up and down, two days up and two days down. Just think—four days, or 96 hours ; and what is the distance to be done under all the circumstances, which you know thoroughly well—the headway and the depth of water the same—96 hours to do less than 35 miles, or in other words, less than three quarters of a mile an hour. That is reducing evidence to an absurdity. Surely, with the Tyne and the Tees, and the Clyde and the Avon, and the Amsterdam and Suez Canals before you, you will not credit any assertion of great danger, or believe such nonsense as that which I hope I have exposed.

(*Adjourned to to-morrow, at* 11 *o'clock.*)

CONTINUATION OF REPLY OF MR. PEMBER, Q C.

SECOND DAY.—WEDNESDAY, 21st MAY, 1884.

(BEING THE 39th DAY OF THE HEARING OF THE CASE.)

RESUMÉ OF FIRST DAY'S SPEECH.

Mr. PEMBER: Now, my lords, what I did yesterday was practically to discuss the question of the enormous value of the saving, to Lancashire, and in doing so I contrasted the evidence of the opponents with the evidence for ourselves, and I trust that our evidence upon the matter has not been shaken by the evidence given upon the other side—I ran through all the different points in which that evidence was attempted to be shaken, namely, master porterage, cartage, the quantity of cotton consumed, and one or two other matters which I do not call to recollection. I further showed that not only on the cotton trade was there the enormous saving of £508,000, which I spoke of in opening this case, and which Mr. Adamson spoke to and maintained, but that very large savings indeed were shown in other trades, which would be of the highest possible importance, if it were not that they do, to a considerable extent, fall into the shade when compared with the great cotton trade of Lancashire, notably in the grain and provision trades, which for these millions of people must be on a very vast scale.

CHAPTER VII.

RETURN CARGOES FROM MANCHESTER.

Now I must go on dealing with the case of the opponents in this matter rather than with our own. Our own case was constructive upon such points as that, and similarly, the opponents' case attempted to be destructive; but there are certain common points, such as return cargoes, upon which we, in the first instance, may not be supposed to have so much to say, because people may take it for granted that there will be return cargoes from such a place as Manchester; but they have attacked that, and that leads me to turn to the question of return cargoes, and show what our evidence upon the subject was, and what their evidence was upon the other hand. Now, in the first place, oddly enough, it is not essential to prove these return cargoes absolutely, for, to begin with, Liverpool receives and sends away 20·96 of her ships in ballast. The evidence is that 6·71 per cent. enters in ballast, and 14·25 per cent. clears out in ballast; in other words, 20·96 per cent. of the ships in Liverpool come in and leave Liverpool without bringing or taking cargo. That, of course, is a very large percentage, one-fifth

of the whole shipping of the port. Now, Mr. Raeburn, the President of the Glasgow Steamship Owners' Association, emphasises this very much. Mr. Raeburn, whose evidence you will find upon that point at Question and Answer 11750, begins to give his evidence upon page 783—he says: A cargo out of Liverpool for an ordinary outside cargo boat is not very common: at even rates I would take the Manchester freight and a Manchester return cargo—an outside boat meaning, of course, a ship that is not a liner, and there he says most distinctly that for such ships a return cargo is not common, and that at even rates he would take the same freight to Manchester. A large proportion of those that either come or go in ballast are those that leave in ballast, showing that the larger proportion suffers from the want of return cargo. That is what Mr. Raeburn says in answer to Question 11750: "I know that a cargo out of Liverpool for an ordinary outside cargo boat is not a very common thing; if I had an inducement, or thought I had an inducement, of a cargo out from Manchester, I should certainly at even rates take the Manchester freight and the Manchester return cargo." Then he says again, three questions further on, "My own impression is that I would have as much chance, if not more, of getting a return cargo at Manchester than from Liverpool." And further Mr. Scrutton says, in answer to Question 11893: "We have not had a return cargo from Liverpool for years." That is Mr. Scrutton, a London shipowner. He says: "We have not had a return cargo from Liverpool for years," and yet he continues to use Liverpool. The truth is, that it is a very common thing to use two ports. So says Mr. Wilson, a Bombay merchant shipper, in page 252, in answer to Question 3606. He says, "It is very customary for vessels to load at two ports," and he says also, "I find it worth my while to use Glasgow rather than Liverpool, although I can only begin to load my ship at Glasgow, and must finish her at Liverpool." So that Mr. Wilson, the Bombay shipper, begins to load his ship in Glasgow, and goes on to Liverpool. Mr. Tallack, again, at Question 12222, says many steamers now load part at Hamburg, in Germany, for Australia, and fill up in London. So that ships not only sometimes use Liverpool to a considerable extent without getting any cargo back at all, but it is a very common thing to load up in two ports not only so distant as Glasgow and Liverpool, but so far distant as Hamburg and London, for the common point of delivery, namely, Australia. At page 796, Question 11893, Mr. Scrutton is asked: "Surely at present you might have got return cargoes from Liverpool consisting of Manchester and Birmingham goods if you tried?" and his answer is: "No, we have not had a return cargo from Liverpool for years." Therefore, I might really take the hypothesis that it is not necessary to prove such an enormous amount of return cargo, but, your Grace, I should think myself weak indeed if, after all the evidence in this case, I allowed myself for a moment to rest content with such an hypothesis as that. A glance at the map will show that I need not do so. You remember the maps I handed into your lordships which showed Manchester seated in the midst of a large cluster of producing and consuming centres, herself the largest producer

and consumer of all, with a network of railways and canals radiating from her in all directions.

What article, I may venture to ask, was there in all Sir William Forwood's mixed manifests that Manchester could not attract for the purpose of distribution? In other words, what was there which any ship that Sir William Forwood took, having collected it at Liverpool, which that same ship if at Manchester could not have taken and collected at Manchester, Manchester being 30 miles nearer to the parts from which she would have collected them? If Manchester had had a ship navigation, would she not, most obviously, long since have been the centre of distribution on the one hand and the centre of concentration on the other for traffic? Liverpool, on the other hand, so different from Manchester, is no producer. I admit she is a large consumer, but she is cut off from the sea on one side—she is on the rim and not in the centre of a district which has to be served and supplied. You remember the small map, which I have not here now, which showed you radiating lines running from Liverpool and Manchester, and if you take Liverpool as the black dot and centre, the lines can only radiate over the coast, and the coast running fairly north and south, it is obvious that the Atlantic Ocean at which she looks is practically a blank. Manchester is seated in the midst of large producing and consuming centres, of which she herself is the largest. In fact, Manchester is really the sun in the centre of the orrery; the thing is therefore self-evident. Liverpool is a mere emporium, a great emporium. What has Liverpool that she does not receive? Why is she an emporium? Simply because at present she happens to be the nearest and most convenient port; as between her and Manchester there can be no question of the contiguity of the port. If Manchester had been a port it is obvious she is 30 miles inland, and more contiguous to the districts she has to serve, and which have to give her return cargoes. There may be a question of convenience, but there can be no question whatever that Liverpool does get exports to a very vast extent. Now, where does she get them from? Whence does she draw them? Obviously a very large proportion from the places on the road to which Manchester stands. Manchester's exports, as Mr. Marshall Stevens has told you, are competed for by all the ports. The greater part, says he, of the great exports from the United Kingdom come from the districts around Manchester—that is on page 407. Nobody contests that for a moment.

Now, surely such a business must be worth conducting. That is the first proposition. And the second proposition is, surely Manchester can conduct it upon terms more profitable to herself and more beneficially and more convenient to the producers than ports which vary from the distance of Liverpool, which is 30 miles further off, to Hull and to London, one of which is 90 miles and the other no less than 200 miles further off. Mr. Scrutton says again that Liverpool is very bad for return cargoes, in spite of her natural advantages; and he says that the Liverpool Dock charges and the railway charges make it as well or better worth the traders' while to ship at London than at Liverpool. He says Manchester, being free of

those charges, exports that now go elsewhere than to Liverpool would centre in Manchester; that he says on page 799. You will see there a series of questions, of which 11956 is a good type: "The same goods being at Manchester, why would you seek to get them on board your ships at Manchester when you do not do it now at Liverpool?—A merchant would consent to the goods coming round in our steamers to London so as to save the expense of forwarding to any port. They would save the Liverpool charges, and they could put them on board the steamers at Manchester. The insurance would be very slight. We should make very little difference in the freight, and the merchant will be the gainer." The whole page refers to that; and Mr. MacDougall says the same. Mr. MacDougall says that ships that now use Hull, Grimsby, Hartlepool, Liverpool, London, and Goole would, if Manchester were a port, use Manchester. My learned friend, Mr. Pope, suggested to Mr. Adamson that the payment of canal dues will prevent this. The answer to that is, No, our canal dues, *plus* the railway route to Manchester, do not represent, and cannot represent, the cost of railway transit to more distant ports. Besides, even if it did, which I do not admit, remember there are these canals up to Manchester, which form a very cheap route, and which was admitted to be utilisable at a rate of a penny per ton per mile. Nor will our canal rates be equal to the railway rates up to Manchester, if the railway route were used *plus* the dock charges at Liverpool, which my learned friend, Mr. Pope, very often forgets to take into consideration when putting relative rates to a witness; and it will be worth while for both freighters and shippers to use Manchester—the freighters for the reasons I have given, and the shipowners because they will to a certain extent share with the freighters a part of the saving. Mr. George Browne, the Glasgow shipowner and River Clyde Trustee, gives you an indication of that. Upon page 393, in answer to Question 6417, he says that a freight from Glasgow would give him from 1s. to 1s. 6d. more than a return cargo from Greenock. Why? Because there is no railway to pay; he says if I take it from Greenock there is a railway from Glasgow to Greenock, which is equivalent to a railway from Manchester to Liverpool, and he says, I get a better freight from Glasgow than from Greenock, because the freighter would have the intermediate bit of railway to pay. Mr. Tallack, the shipping and insurance broker, and Custom-house agent in London, on page 812, speaks of the large foreign and coastwise export trade that will be done at Manchester in goods that now go for shipment to London. You cannot ignore the evidence of experts like these. Mr. Charles Ross, of Malcolm, Ross, and Sons, the Manchester yarn merchants, says, I cannot use the sea and the Bridgewater Canal now as a route between Manchester and Glasgow. Why not? Because of the expense, the delay, and the transhipment—the transhipment being from the small boat going up the Bridgewater Canal into the steamer; but, he says, if the canal is made, then I get rid both of the delay and the expense of the transhipment. The transhipment, because the ship goes straight away from Manchester instead of the goods having to be transhipped from the Bridgewater Canal boat at Runcorn; and expense, because I have got the fixed

rates of the Manchester Canal instead of the combination rates of the Bridgewater; and the delay, because there is no delay in transhipment: and he says if the canal is made, all this being got rid of, a daily line of steamers will start between Manchester and the Clyde, and he enumerates the articles which will make up the trade, and that I will ask your lordships to look at, because I cannot always keep in my mind the miscellaneous articles which will be produced at Manchester making up the back cargoes which Sir William Forwood thinks so difficult to find.

Upon page 851, Question 13001, Mr. Ross is asked this, and this is in cross-examination, which shows what a double-edged weapon cross-examination is: "What would the trade consist of between Manchester and Glasgow, take first from Manchester to Glasgow?—From Manchester to Glasgow cotton goods, cotton yarn, alum, dyestuffs, hardware, castings, machinery, linoleum, crockery, paper, sizing, flour, wire, cement, hoop-iron, pig-iron, pipes, veneers, cotton waste, and oils of all sorts." I have no doubt Mr. Ross had not a category of all the articles he would take in in his own mind. Then he says upon page 852, in answer to Question 13007:- "The list I have got here is based upon what I have got from the present canal company, the Bridgewater Canal Company. (Q.) And who carry part of the distance from Manchester to Glasgow? —Yes; this is a list of articles which I have got from the Bridgewater Canal people that are sent from Lancashire to the Clyde at the present moment by water the whole way." And then two questions after he gives you a list of articles that go in that direction. These, he says, are from their official papers. That is all very strong evidence, and really I think I may plead in the most earnest way that evidence of this sort is evidence that cannot be rebutted by any generalities such as are suggested by Sir William Forwood.

Mr. George Hicks, an underwriter, says that the case is conclusive upon this point by one fact, and it is a fact which underlies all this evidence, and is the text upon which I delight to preach. Manchester, he says, will be a port for 4,000,000 of people, giving it an ordinary radius of 30 or 40 miles. The total tonnage of imports and exports, says this man, for the United Kingdom, is 75,000,000 tons. It is at page 964, Question 14627, he says: "I took out a table showing that the total net registered tonnage of vessels entering and clearing all the ports of the United Kingdom for foreign ports is, per annum, 52,513,912. My conclusion is that about 75,000,000 tons" (because he recognised the difference between registered tonnage and burthen) "of cargo foreign and coastwise is shipped and entered to all the ports of the United Kingdom, and my contention from that is that, taking the population which would be served by the port of Manchester at a minimum of 4,000,000, that would give a volume of trade to Manchester of 8,000,000 tons of cargo." It is obvious to your lordships that 75,000,000 is more than twice the 35,000,000 of population in the United Kingdom. Those were taken from the Board of Trade Returns, so that there is no nonsense about it. Therefore, if we were to take credit for such a population, and an average allocation of two tons of import and export per head, we get up to 8,000,000 tons.

CHAPTER VIII.

GENERAL TRAFFIC PROSPECTS OF THE PORT OF MANCHESTER.

But consider this, that the population that we are dealing with is far over the average population of Great Britain, both in wealth and productiveness, and in powers of consumption, which wealth, of course, gives. A vast quantity of produce which is now kept off the canals, and so seeks other ports than Manchester or Liverpool, will come to Manchester. And I will tell you why. To get to Liverpool goods from the small inland canals must be transhipped into larger boats in order to navigate the Mersey. That is the converse of the proposition stated by the gentleman from Glasgow—that he did not care to use the sea route, *plus* the Bridgewater Canal route, between Glasgow and Manchester. So with regard to all these inland canals, of which I have spoken, as radiating from Manchester, a vast quantity of produce is kept off them and seeks other ports, going by railway, on account of the transhipment into larger boats necessary to enable them to get down the Mersey. Now, we should ship it at Throstle Nest Docks, Manchester, from the small boat which has navigated the canal, and we should save this transhipment; *ergo*, the canals immediately become the usual route, and the Manchester Canal will become the cheapest mode of transit for all traffic seeking export from Staffordshire, Cheshire, and Yorkshire, into which these canals radiate; not only the cheapest, but the most expeditious; not only the cheapest, because the rates upon canals are lower obviously than they are upon railways, but also cheaper because we save the cost of transhipment; more expeditious because we save the time of transhipment; the cheapest way especially for a large and new trade in coal, both for export and for bunker purposes. We shall intercept (as I shall show you more carefully when I deal with the coal case under another aspect) the Wigan coal at Partington, on its way to Liverpool, Partington being upon our ship canal. The Barnsley coal, you have already heard, is better than the Wigan coal for the purpose of export as hard steam coal; it is as good as the South Wales, or all but, and far beyond the North Wales coal. Is it not obvious that nothing can prevent, in consequence of its contiguity to us, the South Yorkshire and Wigan coal coming to us? For South Yorkshire coal Partington would be the port. The idea that the Midland, or the Manchester, Sheffield, and Lincolnshire Companies would try to stifle such a trade is absurd—it would be very profitable to them. Imagine our giving them a traffic of 2,000,000 or 3,000,000 tons of coal, would they refuse it because they send coal to Grimsby? It would not prevent shipment at Hull or Grimsby, but if they did not send it, the traders and ourselves would soon find a means to make them, but I do not think there will be any need for compulsion in the matter.

And this is an extremely pregnant question, and relates not only to this matter, but to another. One of the railways whose gradients are interfered with by our scheme, is the Cheshire Lines Committee, of which the Manchester, Sheffield, and Lincolnshire Company are the proprietors, neither they, nor the Midland Company, nor the Great Northern Company, think it worth while to appear against the scheme. By-the-way, they cannot think much of the gradient, and yet we cross their express passenger line; but secondly, do you suppose, if there was the slightest tinge of jealousy upon the part of the Manchester, Sheffield, and Lincolnshire Company at our setting up Manchester as a port for export for the South Yorkshire coal, on account of their possession of the port of Grimsby, that they would not come here and make five times as much fuss as the London and North-Western Company are making about the gradients in order to cover their hostility to Manchester becoming a port in rivalry to Grimsby? Of course they would. They were here last year, but they do not come this year.

Lastly, there is our contiguity to the salt district, where there is a shipment of a million tons of salt coming down the Weaver. Our dues on salt would not represent the extra freight from Weston Point to Liverpool, which the salt now has to pay, nor the dock dues and other charges there. Surely, therefore, upon that point, common sense, and the evidence of so many witnesses, all of them experts in one direction or another, are enough combined to satisfy all fair and rational minds upon such a point as this.

CHAPTER IX.

MARINE INSURANCE.

Now, a word or two upon the subject of insurance. I should dismiss it very summarily indeed, but for Sir William Forwood, who has given me more trouble than any other gentleman. Mr. Tallack, with large experience upon insurance, says the insurance will be the same, point blank, on page 812, in answer to Question 12226 and the following question. There is not the slightest doubt about it. "A word as to insurance; do you believe that the insurance rates would be the same to Manchester as to Liverpool?—Just the same. (Q.) And that you have considerable experience upon?—Yes." Then, in answer to Question 14613, on page 962, Mr. Hicks, of the North China Insurance Company, gives an answer which is worth having. He says, "We make no addition unless the navigation is exceedingly dangerous." He is asked upon what he bases his opinion, and he says, "Because it is not the custom amongst marine insurance companies for a small additional distance to charge an extra premium, unless there is something about the risk which is exceedingly dangerous." Then he

gives a long list of the ports to which he charges the same rates. "We charge the same rate of insurance to all the ports of the Mediterranean from Liverpool, beginning at Leghorn and extending to Alexandria. We charge the same rate of insurance to all the ports of Java, Batavia, Samarang, and Sourabaya, though one port may be several days further steaming than to the other ports. We charge the same rate of insurance to Buenos Ayres that we do to Monte Video, and homeward insurances we charge the same rate of insurance to Bristol up the dangerous navigation of the Avon as we do to Penarth Roads in the Bristol Channel." Mr. Hutcheson, a well-known Glasgow shipowner and underwriter, says the same, and Mr. Hutcheson was one of the more important gentlemen, and upon this branch of the trade he is not cross-examined. I must turn once more to Mr. Hicks, at page 962. Mr. Hicks, whose evidence I was quoting a moment ago, says:—"I insure one-seventh of the whole of the exports to India, Ceylon, the Straits Settlements, China, and Japan"—that is to say, he insures £7,000,000 to £8,000,000 out of £56,000,000, which he gives as the total, as large as Sir William Forwood does in his line of business. And what does he say? He says:—I am not giving this evidence on equal insurances without knowing what I am about—he says, I went up from Liverpool to Runcorn in one tide to judge of the navigation, and he goes on to say, I say it will be easier and safer than the Clyde, the Thames, or the Avon. The truth is there are no bad turns upon it, as on the Suez Canal, and he says most distinctly he will insure at Liverpool rates. The answer that he gives upon the subject of it not being so dangerous as the Thames, or the Clyde, or the Avon, is given in answer to Question 14,616, upon page 963:—"Have you carefully considered whether there would be any danger in the Manchester Ship Canal which would alter the rate of insurance?—I do not think so. In the spring of last year I went in a steam tug from the bar outside Liverpool in one tide right up to the proposed locked entrance to the ship canal, and so far as I could judge, if we had a low-water trained channel made it would be a much safer navigation I should say than that of the River Clyde, where there are so many bends and turns, and where the view is obstructed. In the proposed low-water navigation there is an uninterrupted view when you pass Runcorn right down—any vessel going down could see a vessel coming up the whole way; but upon the Clyde there are many bends and turns, and even upon the Thames, I think it is near Woolwich, there is a very sharp turn at an exceedingly risky place, and vessels constantly come into collision there, and the difficulty generally is to find out which vessel is in fault because the natural risks are so great. (Q.) Therefore you have given the instance of the Avon, the Clyde, and the Thames, and bringing your experience from them to the Manchester Ship Canal, you think there would be no increased rate of insurance as regards danger?—I am sure not. I know the Clyde and the Avon well, and have been up both many times." If that is not evidence of the strongest order I fail to understand what strong evidence can be. Now if this gentleman, Mr. Hicks, who is in such a large way of business as to insure

£7,000,000 worth of property, says that he will quote the same rates as to Liverpool, you may be perfectly certain that Sir William Forwood will do so whatever he says now, unless he carries his hatred of this scheme so far as to cut off his nose to spite his chin. Mr. Hicks says the Suez Canal rates are half what they were when they started, and now they are lower than the Cape rates by that amount. They were equal to the Cape rates, and they have gone down 50 per cent., and they are now 50 per cent. below the Cape rates. After that I may say that we shall not fail if you give us our Bill, and pass us into law, at all events, for want of cheap underwriting.

CHAPTER X.

ESTIMATES OF TRAFFIC BY SHIP CANAL.

Now, my lords, I pass to the last aspect of the commercial case, the amount of traffic in a general way that may be said to be obtainable. Now this arises under many heads, and there are many classes of it. And here I will say that a good deal has turned upon the speeches of my learned friends, Mr. Pope and Mr. Littler—I do not think my learned friend, Mr. Aspinall, was seduced into doing it—but a good deal has turned upon the celebrated Table B 1 of Mr. Marshall Stevens. To begin with, Mr. Marshall Stevens did not volunteer that table. Mr. Marshall Stevens was asked to state, in cross-examination, what he thought the traffic would be, and he was asked if he would tabulate it, and he did tabulate it; and, though it is tabulated, remember this—it is the amount of traffic wrung from the witness by cross-examination—it is not traffic concocted in the first instance for the purposes of this case. Mr. Marshall Stevens was giving his evidence, and stating in a general way that he thought a very vast amount of traffic would come, and was giving certain instances. Not content with that, the other side rashly drew this table down upon themselves by saying, Formulate what you have to say in a table, and we will take time to cross-examine you. That is done.

Now let us analyse this general question, keeping in sight nearly all the time this table of Mr. Marshall Stevens, with the comments upon it. It is Table B 1, beginning upon page 858. But, my lords, before I actually turn to the table, let us begin the thing a little systematically, So far as I know, no one has affected to deny the vast importance of the imports and exports of Liverpool. Nobody knows their exact tonnage of goods, but this is conceded upon both sides, that their values, expressed in money, are roundly, for foreign imports and exports, £200,000,000 a year. Now the tonnage in and out, therefore, to represent that must be something enormous, because it ranges from the expensive manufacturing products of Manchester, such as Manchester goods, at

£100 to £150 a ton down to potatoes. Take salt and pig iron, however, and, of course, coal ranging from 40s. a ton to 10s. a ton. But, your Grace, we can form a tolerably clear notion of what the amount of ships' tonnage will be from facts which are proved or conceded. In the first place, this figure is absolutely conceded, 8,527,531 tons, net or registered tonnage, which paid rates and harbour dues in Liverpool in 1882-83. Nobody denies that figure—that is the initial figure. Now these dues are only paid one way. The carrying value of this tonnage everybody again seems to concede is, probably, double, and there is an indication that they are right in so taking it, because Garston, with a net shipping tonnage of 31,800 odd, actually exported and imported 64,653 tons of goods, merchandise and minerals —that was in three months, on certain ships only which are enumerated, where the weights of the cargoes are readily ascertainable—if you look a little you see the relations between 64,000 and 31,000 are over two to one—the one is twice the other—so that the relation of cargo to net tonnage is shown at Garston—the proportion of net ships' tonnage to cargo tonnage carried is as two of cargo to one of ships, that is at page 1901, it is in the course of Mr. Findlay's evidence. I am particularly anxious that your Grace should not think I am exercising any ingenuity or manufacturing a case—that is why I am so careful about the references. We put it to Mr. Findlay, but Mr. Findlay does not qualify it in any way, and on the following pages, 1902 and 1903, you see the grand total of the cargoes making up the 64,000 odd. That is taken from the Liverpool Custom House Bill of Entry, and there is no question whatever about it. That being the quantity of cargo, turning to page 1901, Mr. Findlay says upon the preceding page :—" I have no reason to doubt it." You see, therefore, the relation between cargo and registered net tonnage is rather more than two to one. Then applying this to the 8,500,000 odd tons of ships paying rates and harbour dues, either going in or going out of the port of Liverpool, if you multiply it by two it brings it to 17,000,000 odd tons as the figure expressing the relation between the carrying capacity and cargoes positively carried—in other words, the cargoes carried one way, either in or out, to or from Liverpool, on the basis of these Garston results are 17,302,360 tons. Now, if you wanted to get the in and out cargoes, you then would multiply the 17,302,360 (tonnage of goods one way) by 2, and that would bring you to 34,604,720 tons as the total cargoes carried in and out of Liverpool by the ships going in and out.

The CHAIRMAN : I cannot find the question and answer, but I thought Mr. Findlay said that the Garston traffic was not a fair test, because the Garston traffic consisted chiefly of coal, and that that always filled up the ship. The net tonnage and the cargo carried you might calculate at Garston, because it consisted chiefly of coal, but the general tonnage which was given in was based upon a different calculation.

Mr. PEMBER : It is not quite that, your Grace, but I was going in a minute to qualify the 34,000,000 tons in this way : I stated that 20 per cent. of the ships that entered and left Liverpool entered and left in

ballast, so that I must take one-fifth off the 34,600,000 odd—that is, I must take off 7,253,149, and therefore my total of 34,600,000 odd will be reducible to 27,300,000 odd. Now, even if Mr. Findlay did not say what your Grace thinks he did say, discussing the thing as between your Grace and myself, I say at once, if it had been merely an idea in your Grace's mind, I concede some attention must be given to it.

Mr. POTTER: Upon page 1911, near the bottom of the page, is what your Grace was looking for—Question 24584.

Mr. PEMBER: I suppose he gave it again, because I have just been shown another question. At Question 24584 he is asked: "You told me that coal and minerals were three-fourths of the whole traffic at Garston"—he was talking about dock dues there—that is not it. It is on page 1900, I think. What he said upon that point is at the top of the page—he says in answer to Question 24495: "The traffic of the port of Garston is a question of full shiploads of minerals from the place, therefore it is very likely this return is correct, showing that the actual weight of the cargo is greater than the tonnage weight, but the trade in and out of the docks in Liverpool is not a mineral trade, and the very converse is the fact, *i.e.*, that at Liverpool the actual tonnage would be less than the measurement tonnage."

The CHAIRMAN: That is what I was thinking of.

Mr. PEMBER: It is perfectly manifest that that cannot be so, and that is only a surmise upon the part of Mr. Findlay. But I think your Grace will see that the presumption is as strong as it can be against any such solution as that, and for this reason: You have the values of Liverpool, which are the same as London, and they between them, London and Liverpool, have got £400,000,000 of imports and exports in value, against something like £600,000,000, the total for the United Kingdom.

Lord SHUTE: That is conversation between Mr. Pope and Mr. Balfour Browne—it is not the witness at all.

Mr. PEMBER: That is so, and I will tell you why I thought it could not be Mr. Findlay, since Mr. Findlay could not say the trade of the port of Garston is in full loads only to the place—that would be absurd—nobody who knew the place could say its import trade was full mineral cargoes to it—but, your Grace, I want to be moderate in this matter, and I admit that some qualification, though not anything like that, must be admitted, similar to that which is in your Grace's mind. I treat it, therefore, as an emanation from your mind, and say at once something must be conceded, but still it leaves the tonnage enormous. Only 14 per cent. of the ships using the Mersey go out in ballast, and though they may not all fill up with an absolutely full cargo, depend upon it they fill upon the average with more than their net register tonnage, and the presumption is very strong that they largely exceed it in cargo. Liverpool and London between them take in values two-thirds of the exports and imports of the United Kingdom. You may therefore suppose in the rough, though it is but presumption, that they take two-thirds of the tonnage. Now give Liverpool one-third of the tonnage of the United Kingdom, which is what she has in values of the imports and exports, viz., £200,000,000. Now give her

one-third in tonnage as well as in values, and in all human probability you get at the figure of 25,000,000 tons of cargo at least. But remember that as a matter of fact, in the earlier part of the case, we did not base our case upon anything so big as that. Upon page 419 Mr. Marshall Stevens gave a very careful answer, in which he does not care to put the thing above 15,000,000 ; but I have very little doubt myself, if I may say so, that if as a matter of fact you find Liverpool with one-third of the values, if you could get at it, you would find her with one-third of the tonnage. If the tonnage be 75,000,000 she gets 25,000,000, but I do not care to put it so high as that. I am content to rest with the 15,000,000 which Mr. Marshall Stevens mentioned upon page 419 of his evidence. I see my learned friend, Mr. Pope, says in his speech : "I have no doubt the trade in and out of Liverpool will reach an amount of 13,000,000 to 15,000,000 tons." I am contented to take anything between those two enormous figures, or even the lower one. Now I ask, whether it is 15,000,000 or whether it is 25,000,000 tons that come in and out of Liverpool. Where does it go to ? If it is export, where does it come from to Liverpool ; if it is import, in what direction is it going ? Liverpool does not consume it. The map is the answer. By far the greater bulk must go either to Manchester itself or the districts immediately around Manchester, or to the parts of England eastward and beyond Manchester ; the proposition is a very simple one, and it is stated in many ways by many witnesses—it is stated notably by Mr. J. C. Fielden, to whose evidence I cannot refer in the shape of question and answer, because it was largely based upon statistical evidence, given rather in the shape of a connected essay by a very able man. But remember that for all this vast traffic, even taken at the lowest figure, which must be going inland and eastward to Manchester, and to places round Manchester, and beyond—for all this vast traffic you shift the seaboard 30 miles, or *vice versâ*. You either put them upon the sea or take the sea to them. That is a general proposition to which the other side have never ventured to address themselves, because they could not. They have done their best to make out that water flows uphill, but they cannot attack anything so palpable to everybody as that. From Liverpool to almost all quarters of the compass, Manchester is 30 miles on the road. I cannot say that too often or impress it upon you too much—it is half-way between Liverpool and the West Riding—30 miles out of the 60 miles to Halifax. And remember this 30 miles shifting the seaboard involves a change of transit from the most expensive railway journey in the wide world to nothing for the railway journey, and in place of it only the canal charges, which are 5s. to 6s. at the outside ; and in many cases besides the avoidal of the most expensive railway journey in the world, the avoidal of transhipment, because a great deal of traffic we shall take is within cartage distance of Manchester, and there will be no transhipment at all.

Now, your Grace, I pass to another head. We say we have proved most abundantly that, taking the existing circumstances into consideration, Liverpool does not do all the traffic she might do from the district which she at present serves. Mr. Adamson gave you a figure which is a very pointed illustration of this. The total value of the cotton exports

from Great Britain, which is practically going from Lancashire, is 75 and three-quarter millions, the exports from Liverpool are only 43 and a quarter millions, the balance between the two being £32,553,000, which now represents cotton exports from London, Hull, Southampton, Grimsby, and elsewhere. Why do not they go from Liverpool—it is the natural port, 30 miles off? That is £32,553,489 for Manchester to export for herself when she becomes a port and controls her own trade—that is in money value without touching Liverpool at all. Under any circumstances I am free to admit there is much export and import from Lancashire and for Lancashire, from Yorkshire for Yorkshire, and from Cheshire for Cheshire, that must and will always be done *viâ* London and other southern ports, like Southampton—it will go on to the end of the chapter, and neither Liverpool nor Manchester can expect to monopolise everything. But this trade which I say will be so carried on, and is so carried on from London and Southampton, and other ports of that sort, is now done very expensively by railway. This ought not to be. Liverpool imports and exports nearly the same in money value as London—that is foreign £203,581,610, as against London £201,093,777. I believe Liverpool just topped London, but yet London has, in addition, a coasting trade of 4,500,000 tons of shipping, whereas Liverpool only has a coasting trade of 2,700,000 tons, a little more than half. That is distinctly stated upon page 410 by Mr. Marshall Stevens, and it has never been contradicted. Why is that? I think we shall see presently. Liverpool being as great a port for distribution and for consumption as London, and equally accessible from all parts of the United Kingdom as London, why is it that, whereas London does a coasting trade of 4,500,000 tons, in other words, sends that amount of trade round the coast by sea, Liverpool can only send something like half the amount? Mr. Spencer, of Rylands and Company, is the first witness who says anything upon this point. You will find what he says upon page 74, in answer to Question 939. He says, "If the canal was established in Manchester we should send goods by boat down the canal and round the coast to the boat at Southampton or London." Why does not he send them from Liverpool now? Because sending them by canal means sending by water. The present cost, he says, by railway to London is 25s. a ton, and if I sent them by water I could do it for half or two-thirds of the cost. Why does not he do it now? As you will find abundantly a little further on, he does not do it now because it is so inordinately expensive, owing to transhipment at Liverpool, and he sends by railway. It is not worth his while to take the cheaper route by water. What he says as to the expense of sending it by railway is corroborated by other witnesses, and again I turn to Mr. Marshall Stevens, and Mr. Marshall Stevens, on page 410, in answer to Question 6675, says this: That the railway rates from Manchester for Manchester goods are to London, 40s.; Bristol, 35s.; Plymouth, 46s. 8d.; Newcastle, 35s.; Leith, 40s.; Cardiff, 43s. 4d.; Penzance, 55s.; Dublin, 25s.; Cork, 42s. 6d.; West Hartlepool, 42s. 6d.; and Dundee, 45s.; and, says Mr. Marshall Stevens, I will

carry for 15s. There would arise there, it is perfectly obvious, a large trade, both home and foreign, with an immense saving.

Now, Mr. Findlay admits, in his answers to questions upon pages 1905 and 1906, those rates. He says the rate by rail to London for cotton goods for export, including dock dues, is 25s., and for local consumption 40s., although steamers from Liverpool carry at 12s. 6d. to 15s. per ton. Why is not this done now? Why, if Mr. Marshall Stevens can carry at 15s., which is the rate for all goods going as high as 55s. to Penzance, is it not done now? If Mr. Reuben Spencer, the managing partner of Rylands and Company, knows this perfectly well, and says I can save half of what I pay to London and Southampton by railway, why is it that that is not done? The answer is perfectly obvious; partly because of the excessive dock dues at Liverpool, and also more because Liverpool is the point of distribution to which they must get to use the water route at all, and this without anything upon the part of the Liverpool Dock Board can only be arrived at by a railway journey, and when you add the expensive railway journey from Manchester and the district to Liverpool, and then pay such Liverpool Dock dues, cartage, and other transhipping charges as there are, and then pay the freight from Liverpool round to these different towns, London, Southampton, Cardiff and the rest, you get the rate which is paid overland by railway, or such a little difference that it is not worth the trouble. In fact, the advantage of the sea freight is absorbed by the antecedent journey between Manchester and Liverpool. There will be no antecedent journey when Manchester is a port. Therefore you see the disability which we remove, which disability is the fact that it is 30 miles from the point of production before the sea route can be used, that disability we remove, and that forms the cause of the coasting trade coming to us.

A third cause there is for the creation of this coasting traffic to Manchester. Manchester being the centre of a network of canals, as well as of railways, the canal would concentrate traffic for shipment at Manchester, whether for foreign or coastwise traffic, in a manner most impossible at Liverpool, because they are narrow inland canals, only navigable by boats that cannot navigate the estuary of the Mersey in safety. Therefore, to take advantage of a sea route, there would be a double transhipment necessary—a transhipment into the ship at Runcorn, at the Bridgewater Canal, to get down to Liverpool, with a subsequent transhipment into the big ship at Liverpool, which was going to take them round the English coast or away to America—in this case round the English coast. Moreover, and though last not least, the reason why even this cheap canal method of navigation down the Mersey and so to Liverpool, even if it were not for the double transhipment, cannot be used, is because the canals are not emancipated, as we shall emancipate them, from the domination of the railways. That is an answer to all such arguments stated by my learned friend, Mr. Pope, or stated by Sir William Forwood, or stated by Mr. Findlay, in whatever shape they are stated, against the arising of this

coasting trade, and which arguments, I will say, are typified in the cross-examination of a witness, Mr. Scarborough, the President of the Halifax Chamber of Commerce. Mr. Scarborough was speaking of exportation and importation, *viâ* Manchester, of wool and the manufactures of wool, and my learned friend, Mr. Pope, suggested this to him: he says, You have got your present railway rate between Liverpool and Halifax. Yes, says the witness. What is it? says Mr. Pope. 16s. 8d. says the witness. Well, says Mr. Pope, now you have a railway rate from Manchester to Halifax, what is it? Mr. Pope puts 14s. 2d. upon him. Then Mr. Pope adds to it the canal dues, 6s. 9d., and he says, When you have got it, you send your goods for shipment to Manchester, at a total of 20s. 11d. against what you could do it for to Liverpool. Now, there are one or two things which my learned friend, Mr. Pope, forgot—he forgot that the amount he gave, even if right, was the total charge *viâ* the railway to Manchester, and then from Manchester *viâ* the canal, the total charge upon the Manchester route.* But the Liverpool route must be charged further with the Liverpool charges, which, if you turn to our table 14, you find upon such articles as he was talking of to Mr. Scarborough, is 7s. 2d., so that the total rate on the Liverpool route to be compared with the 20s. 11d. upon the Manchester and the canal route would be, not 16s. 8d., but 16s. 8d. plus 7s. 2d., which is 23s. 10d., or showing a saving upon the Manchester route of 2s. 11d.; but that is not all. Neither he nor the witness remembered the canals of which I have been speaking from all the Yorkshire and Midland towns; it is abundantly clear that the conversion of Manchester into a port for sea-going vessels is by the complete utilisation of inland canal system alone, going to confer an immense benefit upon the trade of that part of England. But the witness, Mr. Scarborough, did insist that when the canal was made he would obtain a lower railway rate in the nature of a through rate.

CHAPTER XI.

THROUGH RATES AND TOLLS.

And that leads me to say what I have to say, and, fortunately, it is not much, upon the subject of the Railway and Canal Traffic Act, 1873. My learned friend, Mr. Pope, was to have argued it, but he did not. Now I will tell you exactly how the matter stands. My learned friend

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* NOTE.—This railway rate to Manchester from Halifax is also for *local consumption only*, whereas the rate to Liverpool is for *export*. When Manchester becomes a port she will be entitled to *export* rates. For explanation of the difference between local and export rates see the rates from Manchester to London.

Mr. Pope, thought I was putting the matter outrageously high. I have reason to think Mr. Pope did not understand the position I was taking up. Just let me, with perfect fairness, act upon such a matter as this, rather as *amicus curiæ*, than an advocate. I have the Act in my hand. Now a railway company and a canal company in the Railway and Canal Traffic Act are defined as: "Any person being the owner or lessee of, or working, or entitled to *charge tolls* for the use of any canal in the United Kingdom, constructed or carried on under the powers of any Act of Parliament," not bound to be a carrier, but entitled to *charge tolls* for the use of the canal. Now, when you come to see what the purpose of the Act is in the nature of getting through rates, you have to turn to what is known as Section 11 of that Act. Section 11 recites a certain Act, and an older Act, called Lord Cardwell's Act of 1854, which enjoined upon railway and canal companies to give what are called due and reasonable facilities for forwarding traffic from the lines of canals of the one to the lines of canals of the other, and, having recited that Act, this Act goes on to say that: "The said facilities to be so afforded are hereby declared to and shall include the due and reasonable receiving, *forwarding and delivering* by every railway company and canal company and railway and canal company at the request of any other such company of through traffic to and from the railway or canal of any other such company at through rates, tolls, or fares." Now, forgive me for venturing to explain to your lordships what may seem elementary, but it may not be in your lordships' minds, the difference between rate and toll. The rate is that which a company gets which carries upon its own line or canal as a carrier including toll; the toll is the payment which the railway or canal company get for the use of the line or canal when they are themselves not carriers, but other folk are. Therefore, it stands to reason, as the clause says, the canal company may insist from another canal company upon a through toll, that the forwarding company need not be carriers, otherwise the word "toll" would not be used in the Act at all. If you say I am entitled to ask for a through toll, it contemplates the idea that I, who am asking for it, am not a carrying company, because "toll" does not refer to any but a non-carrying company. Therefore, my position is that we, as a canal company, forming part of a link of canals, for these canals are joined on to us, will be able to ask against these canal companies, and any one controlling them, through tolls. A trader cannot ask either for a through toll or for a through rate; that protection in 1873 was given to the railway and canal companies, but a trader can apply under the section of the Act of 1854, which I told your lordship is recited in and embodied in the Act of 1873, against anything which is undue preference of one trader over another—if that is to say one person gets what are unreasonable and unfair rates having relation to the rates which are appropriated to other persons, he can apply, not under Section 11, but under Section 2, of the Act of 1854, for an injunction against this undue preference of the other person; and therefore against the undue disability to himself being continued; the words are: "Nor shall any such company subject any particular person or company or any particular description of traffic to any

undue or unreasonable prejudice or disadvantage in any respect whatsoever." That is generally known amongst lawyers as the undue preference clause under which traders may apply.

Now upon that point I want to suggest this to you: My learned friends had a good deal to say about geographical position, and difference of distance not enabling anybody to get a differential rate—they are wrong. And here I have the celebrated case which was mentioned by one of them, called the Denaby Main Colliery Company against the Manchester, Sheffield, and Lincolnshire Railway Company, and this is the marginal note: "If a railway company charge the same rates for the same traffic going to the same destination from places differing considerably in distance from that destination, this is *primâ facie* evidence of an undue preference. Where there is evidence of a preference whether or not it is an unreasonable or undue preference within the meaning of Section 2 is a question of fact." But to carry the same traffic to the same place at a great difference of distance at the same rate is *primâ facie* evidence, says that case, of undue preference; *ergo*, if a Manchester man having goods to send to Halifax could go to the Railway Commissioners and say, It is 30 miles from Manchester to Halifax—it is 60 miles from Liverpool to Halifax—yet they charge me for the 30 miles as much as they charge the Liverpool man for the 60 miles, he would have brought forward *primâ facie* evidence of an undue preference, and then they would inquire into the circumstances to see whether that *primâ facie* evidence was eventually final or not. Then it says: "Upon an application to the Railway Commissioners for an order restraining an infringement of the provisions of Section 2 of the Railway and Canal Traffic Act, 1854, it is not necessary to prove actual damage if damage can be inferred from the circumstances. As a general rule charges on traffic using the same railway under the same circumstances ought to be after the same rate per ton per mile, but the rule is not so rigid that any scale that is not in conformity with it is illegal, nor are charges that are unequal or that cause prejudice and disadvantage prohibited by Section 2 of the Railway and Canal Traffic Act, 1854, unless they act in that way unduly and unreasonably." In other words, though, *primâ facie*, you ought to have the same mileage rate; there is a certain margin of licence, and a certain consideration of general convenience given. Then comes the particular case in point. "A railway company charged a uniform rate for traffic from an entire district or coalfield, the collieries were grouped because they all worked the same bed of coal and the grouping applied compulsorily to a coalfield extending 20 miles and covering an area in which some of the collieries were that distance apart. Collieries in one part of such district paid no higher rate than collieries in another for their coal traffic to any particular station, all of them paying one uniform rate irrespective of any difference in their actual distances from such station." The difference in distance there was only 20 miles, and here it is 30 miles. "Upon complaint by a colliery company in the district that the effect of the

uniform rate was to subject their coal to a higher charge per ton per mile than coal from other collieries, and to deprive them of the advantage of their greater proximity to places to which the coal was sent, it was proved that the applicants were charged the same rate for conveyance of their coal to a particular station as was charged for coal sent from other collieries in the same district, although the additional distance to be run was 10 or 15 miles. *Held* that the grouping system as it affected the applicants subjected them to an undue and unreasonable prejudice and disadvantage, and that the railway company ought to carry the applicants' coal at a rate per ton per mile not exceeding that charged to other coal owners of the district in ascertaining the mileage rate an allowance of 1s. per ton in all cases being first made for fixed expenses." Now that is the Denaby Main case; there was a similar case called, the Nitshill colliery case, in which I was, but I need not refer your lordships to that. The Manchester men will say, We want to send wool to Halifax—I use your railway for 30 miles; Mr. Jones, of Liverpool, uses it for 60 miles. You must not charge me what you charge Mr. Jones—that is the Denaby Main case. You are not bound to charge Mr. Jones twice what you charge me. That kind of margin the Railway Commissioners will allow. If you charge me 3s. you are not bound to charge him 6s., but you must charge him something more than me; or, to put it in this way, I do not ask you to raise his rate, but you must lower mine—you must make a difference to me in consequence of my geographical position. I think that is a fair exposition of what we may do. Turning back to the position of the Canal Company under the statute, I did not say this, which I think is what my learned friend, Mr. Pope, thought I meant to say. I did not say that a non-carrying canal company from Manchester to Runcorn could ask for something which was a mixed through toll, and through rate. I did not say they could say to the London and North-Western Company: We carry from Halifax to Manchester, and from Halifax to Liverpool; you charge now 16s. 8d. per ton rate from Halifax to Manchester, I charge 5s. for my toll from Manchester to Runcorn; you shall consent to an aggregate made up partly of the rate you are to receive, and partly of the toll I am to receive—the whole thing amounts to £1; you shall get 14s. as your apportionment of the £1, which will be the rate to you, and I will get 6s. of the £1, which is the amount of toll to me. I did not say the Canal Company could go to the Railway Commissioners and make that demand under the statute. I did not say they could not, and I will not be supposed to think they could not. I have not formed an opinion upon the subject yet—it is an entirely new point; nobody has raised it, and I will not undertake to say whether they could or not. I am not satisfied they could not; but because I am not satisfied that they could, I will not plead that they could. But I say they could insist successfully beyond the shadow of question upon a *through* toll over the lines of canals converging on to Manchester; that is to say, the canals from Leeds, from Halifax, from Bolton, from Rochdale, from Stoke, from whence you will—that is too clear for argument. The

Railway Commissioners would deal with the refusal of the canal in a minute, especially if it is under a railway, we should get a through water *toll* settled, and when we got a through water *toll* settled, even if the traders failed, which I do not think they would, to get a cheap rate between Halifax and Manchester, under the Denaby Main case, do you suppose that the high rates from Manchester to Halifax would last a moment? Give me a cheap water *toll* from Halifax or Leeds to Manchester to combine with my canal toll all over the world, and the high rate from Halifax to Manchester will not last an hour. Competition will bring it down.

Then I might be met with this suggestion: Yes, but the moment that competition brings down the rate between Halifax and Manchester, it will reduce the rate from Halifax to Liverpool too, which will keep the sea payment on a par with the other. Why should it? There would be no compulsion upon the London and North-Western Company to carry from Halifax to Liverpool for 14s. because it carried from Halifax to Manchester for 14s. No Liverpool company could take them before the Commissioners and say, I suffer because you carry for 30 miles for 14s., whereas you carry for 60 miles for 14s., as the case may be; no railway company would prefer to carry 60 miles for 14s. when it can carry 30 miles for 14s. If they can get 14s. for taking goods from Manchester to Halifax, to say that instead of taking them to Manchester we will take them 30 miles on to Liverpool is absurd. They would take them at a higher rate, because they like to carry 60 miles instead of 30 miles over their lines, but they would insist on being paid for it. The thing is too clear for argument. But quite apart from the technical argument, your lordships' common sense, as lay gentlemen of ability, will see that it is impossible to suppose that equality of shipping rates with these canal rates in existence, *plus* the inland canals, can ever be kept up between Manchester and Liverpool; it cannot be done, it will take all the ingenuity and obstinacy, and all the hate of all the railway managers in Great Britain to try it, and then they will not succeed. How can you do it to Liverpool to and from places to which Manchester is 30 miles *en route?*

CHAPTER XII.

PROSPECTS OF REVENUE.

But I am afraid I may be frittering away the general effect of the evidence upon this subject of general estimated traffic by going into details. Therefore I turn at once to what I am afraid I promised to do long ago—to these tables of Mr. Marshall Stevens, which, as I say, he only put in when tempted under cross-examination; therefore they are doubly in my favour and doubly against the other side. Now let us

examine them, and test them by the other witnesses whose evidence, directly or indirectly, supports them, and test them by my learned friend Mr. Pope's criticisms, and Mr. Littler's cross-examination. They were not worth Sir William Forwood's serious consideration. I dare say not, but they may be worth ours.

The principle upon which these tables go is well laid down in the first of them, upon page 858—he calls it "Estimate of traffic and revenue." "Manchester is the centre of the largest consuming and producing district in the country." Note this: "It is not assumed that the volume of trade indicated will be immediately established upon the canal, but rather that the trade will grow with the construction of the canal works commencing with barge traffic to and from Liverpool until depth is obtained for sea-going vessels. Coasting and continental trades will then be developed, and will be followed by other foreign trade until the completion of the works will open the canal to the trade of the world." Now let us see what he does—he gives you the foreign imports, the foreign exports, coastwise traffic, barge traffic to and from Liverpool, and local traffic in the canal. The two last are of small importance—the important ones are the imports and exports, foreign and coastwise traffic, and they amount altogether to a total of 9,650,000 tons, and the revenue, £1,491,505; in other words, practically a million and a half sterling, and then he gives you the reserve revenue of which I have spoken more than once on the ship dues which, as I told you, we have taken no account of, but which is a very large sum, because we were rather comparing our revenue and the cost and the saving from the point of view of what is done now at Liverpool. But, as a matter of fact, we have ship dues at Liverpool, therefore there is nothing to compare, and we left it out of the calculation. But never forget that upon 3,000,000 of tons only foreign, and 1,500,000 coastwise, a vast deal less than he has taken, there is £187,500 a year, which must be added to all calculations of revenue. Now, Mr. Marshall Stevens had accepted from Mr. Browne that Manchester was the centre of one-fifth of the population of the United Kingdom; but supposing we made a very handsome reduction, and took it as the centre of 3,000,000 instead of 7,000,000, that would be one-tenth of the United Kingdom. Now, then, we have not taken anything like one-tenth of the tonnage. It is on the same page, 858, of Mr. Marshall Stevens' evidence. "The tonnage of vessels entered and cleared with cargo in the United Kingdom in 1882 was 102,529,134 tons." Then he speaks of the increment. Now just see what we take out of that. If our population was one-tenth, we should have one-tenth of the total tonnage fairly applicable to that. In other words, we should have 10,000,000, which would be one-tenth of 102,000,000; but if the registered tonnage be only half of the actual tonnage, you have to multiply the 102,000,000 by two, and bring it up to 204,000,000. If the registered tonnage of the United Kingdom really means half the actual trade done, and the trade done were 200,000,000 of all kinds and descriptions, then it is perfectly obvious we have only taken 5,000,000 out of the 204,000,000,

which is only 1-22nd of the whole amount; so that we do not take one-tenth in proportion to the population of the tenth, but only half the amount. But as to coastwise traffic, note this: What do we claim? Mr. Marshall Stevens says of coastwise traffic, 3,000,000 tons is what I think may eventually come on to the canal. Is that *primâ facie* excessive after all I have said? Liverpool at present does 2,700,000, only 300,000 tons less, with all its disadvantages, in spite of its dearness, and in spite of the other disadvantages mentioned by the witnesses whose evidence I referred to, and that 2,700,000, as Mr. Marshall Stevens says, is only net registered tonnage of ships, just as the London 4,500,000 tons was only net registered tonnage of ships. What we take is the tonnage of the traffic we do. If you turn ours into registered tonnage, as compared to Liverpool 2,700,000, we should have to divide our shipping tonnage coastwise by 2, and turn it as he does, when he talks of ship dues which he takes, into 1,500,000, so that you see all that we are asking for upon Mr. Marshall Stevens' table there, if you compare it with the actual registered tonnage of coastwise traffic done at Liverpool, is 1,500,000 registered tonnage of ships, against 2,700,000 registered tonnage of ships at Liverpool. Therefore, we are extremely moderate, because we conceive that we shall have very great advantages as compared with Liverpool in developing the coastwise traffic.

I have dealt a good deal already with the question of coastwise traffic, but let me give one or two illustrations from one or two witnesses which suggest how it will arise. I take the Irish cattle. Mr. Wharton, of Salford, says, I have been sent here by all the principal cattle dealers. That is at page 394, Question 6433. Now, on the same page he says, The consumption of Salford alone is in cattle head 152,527, and sheep 446,865. On page 394 again he says they are mostly Irish. Then he goes on to say that the saving per head upon cattle will be 2s., and on sheep 7½d., the aggregate being about £15,000 a year upon the cattle and £10,000 a year upon the sheep. That is to Salford alone. Now, just conceive that here is a trade coming from Ireland of that gigantic character. If he can use my canal, he can save £25,000 a year in transit. Do you suppose he will not? Of course he will. There is a trade in American dead meat to a large extent—165,000 quarters of beef and 14,000 carcases of mutton. That is a large trade, but it is foreign.

The CHAIRMAN: Do you assume that this cattle trade is to be marketed at Manchester?*

Mr. PEMBER: He says so.

The CHAIRMAN: Then it would be confined to Irish cattle.

Mr. PEMBER: That particular trade is three-fourths Irish cattle.

The CHAIRMAN: Are you aware that no foreign cattle can go there?

Mr. PEMBER: He says: "There were imported into Liverpool from Irish ports last year (1883), 248,662 cattle, 253,623 sheep, and 143,214 pigs. (Q.) I will not ask you the number of Canadian cattle. What was

* The Salford Cattle Market, the greatest in the north of England, is about a quarter of a mile from the proposed docks.

the total number of cattle, sheep, and pigs during that year at Salford? —We had in Salford market during the year 1883, 152,527 live cattle and 446,865 sheep. (Q.) What proportion of the sheep that came to Salford Cattle Market came from Ireland?—Three-fourths of them, and the cattle the same." So that three-fourths of the trade is Irish trade.

The CHAIRMAN: It could not be any other.

Mr. PEMBER: No. I am talking of the coasting trade now. Then he goes on to say this, that the saving would be 2s. a head upon the cattle, and 7½d. per head upon the sheep, and that multiplied out works out at £15,000 upon the cattle, and £10,000 upon the sheep. And it is obvious that it would be so, if your Grace pauses for a moment, because 2s. per head upon the cattle is one-tenth of £1, so that if you divide the head of cattle by a tenth you get what I have taken, and in the same way, if you divide the sheep by 40, to get it into sixpences, though he said 7½d. a head, you get £10,000 saved upon the sheep.

Now that is an enormous sum—you are dealing with the provisions of a mighty population, and upon the one item that I am now speaking of, not to mention the grain trade, there would be £90,000 a year saved, but upon the import of coastwise Irish cattle and sheep to Salford, one market only, there is a saving of £25,000 per annum. Now upon page 387, Mr. Stanley, of Manchester, who is in the fish trade, and a large dealer in Irish and Scotch salmon, says the rate for Irish and Scotch salmon by goods train to Liverpool is 20s. per ton, and by passenger train it is 30s., it is the last question upon page 387. "What does it cost you?—It costs about 2s. a box taking all the charges together. (Q.) Can you give it us in tons how many boxes go to a ton?—About ten boxes to a ton, that is 20s. (Q.) You have a place of business in Liverpool?—Yes. (Q.) Is there a special fish train from Manchester to Liverpool?—No. (Q.) What class of train have you to use?—Principally goods trains, or we have a wagon put on behind a passenger train—principally goods. (Q.) What is the rate by them?—The rate by goods train is the cheapest; we pay 3s. a box by passenger train, 30s. a ton." And he says then, I should save 10s. a ton on salmon if I had it water-borne up to Manchester. It is put to him it is 9s. 7d. a ton. I have not taken it upon passenger train, but 9s. 7d. a ton against the 20s. a ton by goods train is rather over the 10s. saving I mentioned. Now he says it will be a saving to him, but he says it would not only be a question of saving to me, but it would be an increase in the value of my fish, because the water-borne fish as a rule fetches a better price, because the fish that comes by rail is frequently changed, and there is a good deal of tilting, and the fish gets underneath the ice a good deal, and the scales get rubbed off. I dare say your Grace remembers that that is in answer to Question 6333, page 388: "Would any other advantage accrue to you by bringing it by canal?—Yes, there would be great advantage, all the water-borne fish as a rule fetches a better price, because the fish that comes by rail is frequently changed, and there is a good deal of tilting-up, and the fish gets underneath the ice a good deal and the scales come off it. We can tell when

we have the fish brought in the market which way it comes and the buyers can do the same because the fish looks lighter and cleaner." Your Grace does not agree with him upon this point?

The CHAIRMAN: No, I do not.

Mr. PEMBER: I do not feed upon salmon entirely. I have a clause in my indentures providing that I shall not be called on to eat salmon more than twice a week. If there is a saving of 10s. a ton upon the rate, do you suppose we shall not get the trade? Your Grace may be right in what you think, but he is a merchant, and he knows what the merchants get. There is something that would not appeal to your Grace and to me, but which does appeal to them, and which makes them prefer the water-borne fish. It is obvious, therefore, that it would be an ingredient in the reasons for our getting the traffic.

The CHAIRMAN: I am a merchant, and do a good deal in that way.

Mr. PEMBER: You do not go to market and see the fish unpacked?

The CHAIRMAN: No, but I know what they produce.

Mr. PEMBER: Before I leave this gentleman, Mr. Stanley, he said a thing which astonished me, but which the other side has not contravened—that is, that Manchester is the largest fish market in the north of England—that is, I believe, in re-examination by Mr. Balfour Browne: "Is Manchester the great market for fish in the north of England?—Yes. (Q.) Is it the largest fish market in that part?—Yes; it is larger than London." That astonished me. Mr. Capper, at page 386, supports him, and he gives the fish rates from Liverpool to Manchester, which did strike me as being most extravagant. He says the rate from Milford Haven to Manchester for fish is 2d. per ton per mile, and the rate from Liverpool to Manchester for fish is 1s. per ton per mile. He says the rate from Youghal, in Ireland, to Liverpool is £4 10s., and the rate from Youghal to Manchester is £7; he says the Cork rate to Liverpool is £3 10d., and the rate from Cork to Manchester is £5; and he says it takes 30s. to get a ton of fish from Liverpool to Manchester. Now the fish steamers, he goes on to say in 6293, would get cargoes. He says, "At the present time there is a syndicate who have their own steamers chartered to follow the fishing fleet engaged in what is known as the Kinsale mackerel trade, and they send at present the steamers to Milford, but the gentlemen who belong to it assure me that they would send to Manchester direct because they should lose no time and they could get return cargoes."

Now I pass from the fish trade, With regard to the potatoes and fruit trade, all these are subordinate matters, but they are all coasting trades, and though subordinate to the great figures, they are not unimportant in themselves. Mr. Harrison says, at page 380, It is an enormous trade. I myself alone pay £1,000 a month in carriage to one railway company. "I have paid to one company as much as £1,500 a month. (Q.) What is the average payment?—Say about £1,000 a month. (Q.) Do you sell on commission?—Yes. (Q.) Do you purchase large quantities of produce bought in Germany, Belgium, Holland, France, and other parts of the continent?—We do. (Q.) And are you large importers of potatoes from

Ireland ?—Yes. (Q.) And Scotland ?—Yes. (Q.) If the Ship Canal was made would you get the potatoes direct to Manchester ?—Yes, all from Ireland." I believe the coasting trade would suit us at present, he says it is not worth doing, and it is not worth doing for these reasons: first, the railway transit from Liverpool, and secondly the dock dues. Now this gentleman gives you an instructive figure which shows you that in fruit and potatoes, which are a very important coasting trade, we shall have the trade. He says, in Answer 6192, page 381, "I have got now from Dundee to London a rate and a route for 10s., and I expect something of the same sort to Manchester, *plus* the canal dues." Now Mr. Nicholls, the previous witness, put the canal dues at 4s., so that this gentleman says I expect to get 10s. from Dundee to London, *plus* 4s. the canal dues—in other words, the rate for Scotch potatoes from Dundee and any other port, of course, to Manchester will not be more than the same rate that I get from Dundee to London, and the canal dues to pay. I shall, therefore, get a rate from the Scotch ports for potatoes to Manchester of 14s. The present rate from Ayr to Manchester is 25s.—that is in Answer 6195. Now that is a saving of the difference between 14s. and 25s., which is 11s. a ton—it is pretty much as far as I remember, getting on to the value of the potatoes themselves. You may think that I am taking too much pains with traffic of this kind, but the traffic is very large. If you turn to the next page you will see the enormous amount that it comes to. He says at 6210, I have known a regular arrival of 340 tons of potatoes per day for six months at a time.

Lord SHUTE: This gentleman says he would charter his own steamer to bring it up to Manchester—that is at page 382.

Mr. PEMBER: He says, I would immediately set up steamers and bring potatoes from Ayr to Manchester. Then to show what a trade this is, he says, at Question 6210: "I have known a regular arrival of 340 tons per day for six months. (Q) How much is it for the six months ? —Assuming that 255 tons of those would come by canal that would be 40,000 tons. (Q.) Was the six months you are mentioning an exceptional case ?—No, it is not an exceptional case. (Q.) Has it happened in your experience more than once to have as many as 340 tons arriving continuously in Manchester for about six months ?—I have known 70,000 tons come in one year to our station from Scotland and Ireland, and a few from Yorkshire. (Q.) If the 40,000 tons came by canal at the saving of which you told us, namely, 5s., it would be £10,000 a year saved upon potatoes alone in the six months." These figures, even if they were subordinate ones, get to a magnitude you never hear of in other cases. Then upon the next page he is asked: "Have you received quantities of potatoes from the Warrington district ?—Yes. (Q.) Would the canal save you there again railway rate, for the carriage of potatoes from the Warrington district into Manchester ?—Yes. (Q.) How much in the course of the year ?—About 1,000 tons a week for six months came from there." There you have 1,000 tons multiplied by half the year—call it 26,000 tons. Remember, ours is also a barge canal, it is not merely a ship canal, we have a towing path and barge locks—we

shall do a large barge traffic, and this traffic will be barge traffic from Warrington to Manchester on the route of the canal itself. We have given several landowners wharves upon the canal for the express purpose of traffic of this kind. He goes into the general import of fruit traffic, and he goes into grapes and oranges from foreign countries, and the fruit traffic generally to show the water rate. And Mr. Nicholls is equally good upon the fruit trade, and Mr. Marshall Stevens told you he had a regular line of steamers from Jersey and the Channel Islands for the same class of traffic—they are running every day up to Garston.

Now, I have spoken also a good deal about wool and iron ore, and I will just mention with regard to wool—it is not necessary to dispossess London of the wool market to get a coasting trade in wool. When they talked of dispossessing London of the wool market, it was when they were talking of foreign wool being imported from Australia straight to Manchester for Halifax; that would involve the question, to a certain extent, of dispossessing the wool market in London. But what I am on now is the question of the coasting trade in wool or woollen manufactures, so that you may consider wool as having arrived in London from Australia, having to find its way from London up to Halifax, Bradford, and what not, and you may consider the woollen manufactures as going from London to Australia, finding their way back to London for the purpose; that is the sort of coasting trade we shall set up, and that we shall do without dispossessing the London market. Without going into the manufactures, see what we shall get as coasting trade in wool. The consumption of the wool-working district is given by Mr. Garnett at Question 5289. Mr. Garnett gives the total annual consumption as 100,000 tons—he gives the saving upon a page a good deal further back, page 322, Question 5136: "What railway rates would it have the effect of reducing? —If wool were brought to Manchester instead of being brought to London and if facilities were given for handling the wool we should save £1 a ton in carriage alone as between one place and the other." And he says all the Irish wool imported from Ireland into England comes by Liverpool, and is used up in Bradford, and he says that is 9,000 tons, and he gets at that 9,000 by saying it might be brought in coasting vessels up to Manchester, and sent by canal to the places of consumption. Mr. Garnett sums up the chances of diverting the traffic in wool. He says, upon page 331, Question 5283: "If you can see that by bringing the Australian wool to Manchester or Liverpool a saving of something like £100,000 a year will be obtained by that process we think it is a natural consequence that whatever barriers are raised these must eventually give way and the wool will find its shortest and cheapest access to the market for which it is intended." A wool market was established at Antwerp, and sent thence to Yorkshire viâ Hull, as two or three witnesses told you. Why? Because it was found to be the cheapest port to send from to the places in which it was consumed. That is how wool will contribute to the coasting trade.

Then there are the machinery and Iron Trades which I alluded to

yesterday under the savings which Mr. Platt and Mr. McNiell said would accrue to those branches of industry. The canal will be preferable, as it will be safer than Railways for the conveyance of machinery intended for export; and as these trades are almost next in importance to the cotton goods as manufactures of Lancashire and the West Riding, a large share of that traffic may be expected. Pig Iron from Scotland and Cumberland now brought part coastwise and part by rail, will largely come by the canal to Manchester at a considerable saving.

In timber imports a large traffic may be expected; as well as in timber made goods for export via London, Southampton, &c.

Mr. Bradford, a manufacturing engineer, on page 333, gives instances shewing that when the Canal is opened he could send his productions of wood and domestic machinery intended for shipment from London or Southampton to the Colonies by canal coastwise, in the first instance, instead of overland by rail at a cost of 25s. a ton. On his timber imports he would also save by using the canal.

I do not pretend to have exhausted the materials for forming a coasting trade—I have gone over a few items, not always the most important. I should be sorry if your Grace should accuse me of the ordinary forensic trick of saying I have taken a few haphazard, and I had far better instances behind; but your lordships will see that I have not picked and chosen. I have taken a few samples, some very important, of the way in which the coasting trade will arise, and I ask you to believe it will arise. What I claim to have done is to have said enough to warrant the question, are we immodest in estimating our coasting trade at 3,000,000 tons of goods—1,500,000 tons net registered, if you look at it from the shipping side? in other words immodest in putting our coasting traffic at a little over half that which Liverpool must carry, especially as, if you turn to Mr. Marshall Stevens' Table B 3, upon page 861, you will find that the tonnage of vessels cleared coastwise from the Tyne was 3,100,000 odd, representing therefore a coasting trade of double the amount of cargo, and the tonnage of vessels entering and clearing at Glasgow was 4,000,000 tons, representing, therefore, a still larger tonnage of cargo. Now, after all I have said, are we immodest in asking you to believe that we shall have half the coasting traffic of Liverpool and far less than half the coasting traffic of the Clyde or the Tyne? If not, then without any doubt, your lordships must accept the fact which is proved on that table of Mr. Marshall Stevens, that on that head alone we shall get an income of 2s. 6d. a ton upon 3,000,000 tons, which is an income of £375,000 per annum, making almost, from that point of view alone, an income large enough to pay for the expenditure upon the canal. And that 2s. 6d. is only half the maximum tolls. We know that this coasting trade can only be achieved by giving a cheap rate, therefore we only take credit for 2s. 6d. instead of 5s., which is the maximum, but are we immodest in supposing that from those figures we shall get the income we claim?

And now for the estimate of foreign traffic. Upon that we turn to our Table B. 1. After postponing their cross-examination for a day upon the table which they had elicited themselves, the opponents immedi-

ately select their points of attack. They did not do as I did with Sir William Forwood, get up on the spur of the moment and deal with his figures and statistics as well as I could, but they asked for time to examine the table, and they took it; and having taken their time with deliberation, they chose their points of attack. What are those points of attack? What points bave they passed by? What have they foreborne to attack? I will take the latter first. They have foreborne to notice what I have pointed out to your lordships so often, that the Liverpool district is a semi-circle, Liverpool being situated upon the sea; they forgot that the Manchester district is a circle in which Manchester is in the middle; they forgot that for everything east of Manchester, Manchester, as a port, will be supreme, until it reaches the point at which the eastern ports and systems are equidistant from the points of consumption. It will be supreme at Halifax, because Halifax is 67 miles from Hull. Taking Halifax first, you must find some point between Halifax and Hull at which an equidistant point will be, at which Manchester will come into competition for anything eastward of it. They forget all that. They forget also this, that looking down that table, with the exception of cotton, flax, tea, woollen yarns, brimstone and rice, every single item for which we take any credit is now a subject of import at Liverpool and at Hull both. I had thought there were certain articles in our table not imported at Liverpool. Mr. Marshall Stevens says, I am mistaken that they are treated in a different way by the Board of Trade Returns, and he has not included them, but that is all in my favour. They forget also that Mr. Marshall Stevens very seldom claims for Manchester more than a fraction, and a small fraction too, of what is now taken by Liverpool. It is only very occasionally that he credits himself with the same amount that Liverpool carries; *prima facie*, therefore I say there is no very great immodesty or want of moderation. If you look down the table you see all the way through that we very seldom take the same amount of any article that Liverpool is now known to carry. Further, they forget, which I must ask your lordships never to forget—that we do not want anything like the 9,600,000 tons of goods, or an income of £1,500,000 to make our canal worth doing and profitable. They forget that I never claimed one-third of the amount of the trade of Liverpool as suggested on the other side as the amount to be done at Manchester. I have only based my estimate of the profit on one-fifth of the lowest estimate of trade done at Liverpool viz., 15,000,000 tons of goods. I have always said—Give me 3,000,000 tons of traffic and I am content. I do not want anything like 9,600,000 tons, and we never volunteered this sort of evidence, but when Mr. Marshall Stevens was cross-examined, and was put upon his mettle to find out what we could do, he set to work to find out, and found out what we could do, and he said, If you want to know what we shall do, this is it, I have not gone into it in this way before, but now that you ask for an estimate, he says, There it is. Therefore we do not want it, but now that they have drawn it down upon themselves let us see how far they have been able to reduce it. They pass over the fact of the incre-

ment, the legitimate increment, of 25 per cent. in eight years, an increment only taken at 10 per cent. upon cotton, which is the principal article; and finally they forget and take no notice of that very large reserve income from dues upon ships, which, as I said before, are the dues actually now paid by ships at Liverpool. Now they are ready to attack us after 24 hours; "The world was all before them where to choose," as Milton says, what have they chosen? My learned friend, Mr. Littler, took bones, flax, jute, tea, wool, yarns and rags, alkali, clay and manure, out of the export list. Now I leave out coal and salt which my learned friend took, because I will deal with those carefully afterwards, and the list I have now given, including coal and salt, covers all my learned friend Mr. Pope's items, export as well as import, except coal and salt. Now, excepting coal and salt, and reserving them for separate treatment, taking my learned friend, Mr. Littler's bones, £950 is the income we take from bones—4,223 tons is the tonnage: flax, £3,885, tonnage 11,284 tons; jute £2,895, tonnage 11,777 tons; tea £1,645, tonnage 4,700 tons; wool yarns and rags £4,077, tonnage 12,080 tons; that is all.

Now I add together the whole of my learned friend, Mr. Littler's list, which he compiled, after having had time to prepare himself, assisted by the ubiquitious Sir William Forwood and Mr. Findlay, and if I gave them all in and said—"Take them out of the list we will undertake never to carry them," what should I lose? I should lose a tonnage of 154,000 tons out of a tonnage of 9,650,850 tons, and I should lose an income of £33,000 a year out of an income of £1,491,505. May I not well say, "Take them all and welcome;" and taking them all they take two per cent. from our prospective income. Even to remove the coal and salt would not be fatal. Coal, you find, is £116,666, and salt £12,500, making an income of £129,166 altogether—call it £160,000; I have not any intention of sacrificing salt or coal, but if I sacrificed the whole I should lose £160,000 a year, and still Mr. Marshall Stevens' table would remain, like the warrior in the old ballad, to "fight upon its stumps;" the stumps representing over a million of money; but I have no intention of giving up these articles. As to bones, my learned friend, Mr. Littler, may take them, but let us take flax. I am careful to do this for this reason; as I say these are the selected points of attack. Do you suppose if they had any better cases they would not have taken them? Of course they would. There was no hurry about it. My learned friend, Mr. Pope, misapprehends the situation, he talks as if the flax imported into the kingdom was 11,284 tons. The total of flax imports are 98,000 tons. All we say is that we are as well fitted to supply the consuming districts between the east and west coasts as Goole is. Goole is upon one side of the island and we are on the other; we are 32 miles from Halifax and Goole is 44 miles; Hull is 67 miles. Why should not we be better able to do the business of 11,284 tons than either Goole or Hull? My learned friend, Mr. Pope, says: "What is the use of your expecting to carry any flax?" Flax is used to make linen, he says; there is no seat of linen manufacture in Man-

chester. Why should there not be? I am not aware. There is no seat of linen manufacture at Goole. The question is: Where is it that Goole carries flax to? Obviously to some place in the West Riding, or others in Lancashire, like Rochdale. I say that we are just as likely to carry as Goole, and though there is no linen manufactured at Manchester, at Barnsley, 30 miles off from Manchester, there is the largest linen manufactory in England, having a warehouse in Manchester itself, it has its offices in Manchester, and does its trade in Manchester. Why should not it do its purchases of flax in Manchester? It must get them apparently from London and Goole—Manchester is the natural port for it. Why not from Liverpool? The answer is that Liverpool cannot compete with from Goole say to Halifax or Barnsley. Liverpool is 60 miles away—Goole is much nearer. But we shall be only 30 miles away, and shall be in a position to do a trade which Liverpool has not found itself in a position to do. Now, remember this, the saving on flax, as on everything else to Halifax would be far greater than the saving upon any article from Liverpool to Manchester, because, when you come to places like Bradford, Halifax, Leeds, Stoke, or any of those places to which there is canal navigation, can you compare a cheap water rate for so many more miles of transit? Supposing Halifax is 30 miles from Manchester, and I have an article going from Liverpool to Manchester by a cheap canal route, I not only save upon the 30 miles between Liverpool and Manchester, but an article going all the way from Liverpool to Halifax saves upon a cheap canal route—all the way—60 miles; therefore the contrast is a contrast of 60 miles of cheap water carriage against 60 miles of dear railway carriage, whereas in dealing with Manchester it is a contrast of 30 miles of one as against 30 miles in the other—being 32 miles from Halifax, are we too immodest in believing that we shall supply Halifax with flax and Barnsley with flax? A Barnsley man now finds Manchester a place to do his sale business, why should not he find it a place to do his purchases?

Now take tea. That is a trumpery matter after all—£1,645. What are our chances of getting the tea. We say; "Credit us with getting 5 per cent. of London;" that is all we claim. Now the present mode of doing the China trade is obviously inconvenient; it is admittedly stated by everybody that the tea ships now come round in ballast to Birkenhead to load up with Manchester goods for China; and that as a tea ship, arrives in London, she discharges her tea and goes in ballast to Birkenhead and loads for China. If there was a market at Manchester, would it not be best for the ship to take the tea to Manchester straight, and load up with Manchester goods from Manchester, instead of having an extra journey in ballast from London to Liverpool or Manchester? However, I am ready to admit that the tea market is certainly in London at present, and probably, the tea import, looked at as a great entity, will remain in London after the canal is made, and the financing, and the general condition of commerce, which I am not commercial enough to enter into, have no doubt, much to do with it, but the Liverpool high charges have had something to do with it, and

on this we may apply to Sir William Forwood's evidence in 1881, At page 89 of the evidence he was asked: "You said the China trade was leaving you?—It has left us. (Q.) And the Indian trade?—The import trade to a large extent. (Q.) How do you account for that?—We account for it to a large extent as I have already stated in consequence of the high railway charges between Liverpool and the points of consumption. (Q.) Supposing London is a larger market for tea than Liverpool why should tea be taken to Liverpool?—25 years ago Liverpool was a considerable market for tea. (Q.) That was rather a flash in the pan, was it not? Before the company's charter there was no great trade in tea to Liverpool?—My memory does not extend to the company's charter, but 25 years ago we had a trade in tea to Liverpool which has all gone." So that 25 years ago they had what he has called a considerable tea market, but he says it left them in consequence of the high railway charges between Liverpool and Manchester. Of course he would not admit it is the dock charges.

The CHAIRMAN: Did he say that the tea market had left Liverpool in consequence of the high railway charges between Liverpool and Manchester?

Mr. PEMBER: Yes. He is asked: "You said the China trade was leaving you?—It has left us. (Q.) And the Indian trade?—The import trade to a large extent." Then he is asked, "How do you account for that?—We account for it to a large extent, as I have already stated, in consequence of the high railway charges between Liverpool and the points of consumption. (Q.) Supposing London is a larger market for tea than Liverpool, why should tea be taken to Liverpool?—25 years ago, Liverpool was a considerable market for tea."

The CHAIRMAN: Between Liverpool and the points of consumption; that is between Liverpool and other places.

Mr. PEMBER: Manchester among the rest; that is to say, I get the tea to Liverpool. Liverpool does not consume all the tea, and when you come to distribute it inland from Liverpool, whether at Manchester or elsewhere, the rates between Liverpool and the places of consumption are so high that we lose it.

The CHAIRMAN: I did not gather from the way in which you read the question that he said in so many words that it was the rate between Liverpool and Manchester.

Mr. PEMBER: No.

The CHAIRMAN: That was what caught my attention.

Mr. PEMBER: If I said that he said it was in consequence of the rates between Liverpool and Manchester, I am wrong; at the same time, it would mean the same thing; the rate between Liverpool and Manchester would be part of the greater whole of which it is part. I read the right words; I commented upon them and said "between Liverpool and Manchester," because that is so much in my mind. The reason he gives for this being done is the high rates between Liverpool and the points of consumption wherever they may be; the larger the number of the points of consumption to which Liverpool did send tea the

better for me. But I was content to take Manchester; he does not merely emphasize the rate between Liverpool and Manchester, but the points of consumption. That is my authority for saying that there was once a tea market in Liverpool which Sir William Forwood, who I, for this purpose, will call a good judge, says was considerable. "We lost it," he says, "on account of the high charges," but I will admit it was not only high charges. I will admit that there were other reasons which concentrated, to a certain extent, the tea market upon London, and if I were to decrease the charges from Manchester or up to Manchester—which is practically decreasing the charges from Liverpool to the most important point of consumption for tea, I will admit that I should not get the whole tea market from London, or a very large amount of it. I admit that there would be numberless places to which, apparently, I might compete with London for tea, though London will be the market, because London is the money centre; but if anything is true in Sir William Forwood's evidence, may not the high charges which he says lost a considerable market re-create a small one? That is all we ask. Why not? That is a modest proposition on our part, especially as it must be convenient for the tea ships to come straight and be re-loaded. Let us suppose that Sir William Forwood was right to some extent when he said that the high charges were the cause of the loss of the tea trade. Let me put the high charges at 1-20th, that is 5 per cent. of the causation in the change of the market, and the trade conditions the other 95 per cent. of the causation. Give to the lower charges, which I will recreate to Manchester, the power of forming one-twentieth, and give me a 5 per cent. market in Manchester, is it such a very immodest request? And that is all we ask; and in asking that I make an addition of £1,600 a year. Where is the "wildness" spoken of by my learned friend, Mr. Pope? It is so easy for some gentlemen to be eloquent: I find it difficult. I should like to know where is the extreme enthusiasm of bringing back a portion by a cheap charge of that which Sir William Forwood says that he lost by a high charge.

Now for jute: the income again there is only £2,800. Of jute, the total imports are 296,000 tons, as shown by the Board of Trade Returns—the return takes 11,777, we ask for 10 per cent. of London. Is that immodest? Jute is proved to be on page 946 now really used for curtains, carpets, ropes and string, and other matters, but especially for curtains and carpets, in conjunction with and instead of wool. Think of Halifax as the great carpet-making district of the West Riding, and all the cognate manufactures carried on in a neighbourhood like that, in which jute could be consumed—I believe, and it will be known to my learned friend, Mr. Pope, that there are large rope manufactories close to Manchester, those of Messrs. Briggs and Company, of Broughton. If that is so, if we have Halifax to think of, and Rochdale to think of, and other places, I do not know, as consumers of jute, why it is so wild to suppose that we may import one-tenth of what is imported into London. Not one-tenth of the whole import, we do not take more than

one-thirtieth of the whole import. Where is the extreme wildness of that jute assertion? I cannot see it.

Now as to rice. My learned friend, Mr. Aspinall, thought the line of cross-examination to be suggested was—You have no rice mills at Manchester? Well, I dare say we have not, because we are not a rice port. It is well known that the rice mills exist at the rice ports. A great deal has to be done with the rice before it is fit for food; they have the large covering husk taken off, and other things, reducing its bulky weight considerably. Therefore it is no use carrying it with all these useless things upon it a yard further than is necessary. *Ergo*, rice mills spring up at a port where rice is brought. Rouen is a place at which rice is brought, therefore rice mills are at Rouen. Liverpool and London are ports to which rice is brought, and you find rice mills at Liverpool and London. Amsterdam and Genoa again, and you do not find any at Manchester. No, because Manchester has not been a rice port. Why do not people think about this sort of thing in cross-examination; but as soon as Manchester does become a port, rice mills will spring up. My learned friend, Mr. Aspinall, suggests that it takes £40,000 to build a rice mill. I do not know whether it does or not, but if people build a rice mill for £40,000, they do so because it is worth their while to convert rice into the condition for consumption; and if rice is brought to Manchester, it will be as much worth while to do it at Manchester as at Rouen, Genoa, Liverpool, London and Amsterdam. Any flour mill, says a witness, on page 441, may be turned into a rice mill. So that my learned friend Mr. Aspinall's £40,000 need not be spent. Mr. Marshall Stevens is asked: "Is there a single rice mill in the country except in Liverpool and London?—No I think not, but any flour mill can be turned into a rice mill." And note the marginal note against what we claim for rice, to the effect that the consumption of rice has doubled in Great Britain in the last 10 years. In the centre of an enormous population with an article, one of the prime articles of consumption of food, which has increased 100 per cent. in 10 years, are we unduly sanguine if we suggest to you that with such a centre we may expect to supply 10 per cent. of what London supplies?

Now I pass from that as from a small matter about which I said I did not care very much, but which I have established a fair claim to—to the salt, which was the first of the two last important items with which we ventured to deal. There my learned friend, Mr. Pope, was very strong on wildness, and I should like you—because I know my learned friend's eloquence is very seductive—he is a very fair man in a general way, he is impulsive and an impressive speaker, and there is a look of earnestness about him which I would give a great deal to imitate. But my learned friend, Mr. Pope, was extremely strong upon the wildness of the suggestion that we should take salt. Very funnily, our contention was established more than any contention I have been striving for the last few days, by Mr. Findlay, my learned friend Mr. Pope's own witness. Mr. Findlay tells you that the rate to Liverpool by water, for salt, was 3s. 6d.; by railway, 3s. 6d. also, but at that price he could not get it, the people

prefer to send it by water. He told us of the carriage to Widnes. Mr. Findlay began at page 1895 with a manner that is as taking in its way as Mr. Pope's: "You do not seriously put the question of salt—it is ridiculous—nobody who knows anything of the salt business of Cheshire would suppose for a moment that a ton of that salt that comes down the Weaver would ever come up the canal paying toll to get freights, to go foreign, and paying toll coming down again, when from the moment they join the River Mersey it is a free river down to Liverpool. It is ridiculous to talk of it." Now, if your Grace will turn to page 1895 we will see what he says. On pages 1895, 1896 and 1897 you will find all the evidence about that. He begins on page 1895 by saying: "If you make the *little* dock at Warrington and the *little* branch railway if any craft or coasting vessels go into that *little* dock we should carry coal to it no doubt." This was his former evidence, which my learned friend, Mr. Balfour Browne, put to him in the form of a question, and his answer is: "Yes, if we require to carry it." But subsequently he says: "We did begin to make it so ridiculous." At page 1896, Question 24468, he is asked: "If it goes past Walton it must go over the canal at some point?—Yes if you assume again that you make your dock and want salt carried from Winsford to the dock if the dock is made we should carry the salt. (Q.) At what rate?—At a reasonable rate." Then he says: "The carriage to Widnes now is 1s. 7½d." That is in answer to Question 24471, and he says that the carriage to Warrington would be 1s. 6d. "It appears to me that having failed in proving the fact by the river now you are going to prove it by railway. The distance is not very great, and it might not exceed 1s. 6d. per ton, probably the same rate as to Widnes." I will take 1s. 6d. a ton; they suppose that the salt comes for 1s. 6d. a ton to Warrington. In Table B2, put in by Mr. Marshall Stevens, you will find that what we ask for salt for export is 1s. Now add the 1s. which we shall charge for salt to Mr. Findlay's 1s. 6d. to Warrington, and I get the total rate made up by what he takes for his rate, and what I take for my toll from the salt district to Winsford to our Warrington Dock—from the salt pan to the ship's side for 2s. 6d. That is against the 3s. 6d. rate charged for the export of the same salt from Liverpool. We shall have no export duty for salt. Therefore it is clear, supposing I had to depend upon railway carriage for the salt from Winsford to Warrington, and that is the most expensive way of bringing it, and you add my own 1s., it would be this, that I could say to the producer of salt at Winsford, I would put your salt at the ship's side at Warrington for 2s. 6d., whereas if you take it to Liverpool it will cost you 3s. 6d. Do you suppose he will not do it? But, says my learned friend, Mr. Pope, with some ingenuity, mentioning the name of a gentleman who has not been called, Mr. Falk, who is one of the largest saltmakers in the Winsford district. My learned friend, Mr. Pope, speaking for Mr. Falk says, "Do you think Mr. Falk can send his salt to Warrington? Why, he makes profit in sending it to Liverpool; he said so in another room." Mr. Falk did say in his evidence in another room this: "I make a profit in sending the

salt to Liverpool. I deliver it in barges of my own from my own works to the ship's side. I charge the public 3s. 6d., and I make something out of it, and in bad times it is profitable to me when the salt is at a low price. But then there are the dock dues at Liverpool to be charged." He says, Do you suppose that Mr. Falk will send to Warrington when he can send to Liverpool ? The answer is, He will make a profit by sending to Warrington ; it may be if he sent further to Liverpool he might make more profit in the longer journey ; but there is no reason why he should not send by us instead of by railway, and that he should not make a proportional profit on the salt delivered to us at Warrington. He will send it if there remains a profit by bringing it down in his own barges to Warrington and delivering it to the public at a fixed price, as he would if he took it to Liverpool and delivered it there—let me add 2d. or 3d. a ton to make it worth his while to send salt to Warrington. As to Liverpool, there will still be a larger margin. Make the total amount 2s. 9d.—it does not cost 1s. 6d. to bring it down ; it cannot cost as much to bring it to Manchester by Warrington by water as to bring it by land—but if it did, if his natural rate to Warrington was 1s. 6d., and that it was rather a leaner matter of profit than taking it the longer distance down to Liverpool, let him add a trifle and turn our rate for salt into 2s. 9d. or 2s. 8d. ; it will be 2s. 8d. or 2s. 9d., against Liverpool export rate of 3s. 6d. Besides, if Mr. Falk sells this salt to the public and does the carrying for the public, will the public let him still charge 3s. 6d. to Liverpool when he might charge 2s. 6d. putting it upon the ship's side at Warrington ? They will get somebody else to do it if he will not do it. Besides, there are lots of saltmakers in Winsford who do not use their own barges, but use the barges of the public, and we shall get their salt ; if he charges too much, his competitors in trade will bring it there. The thing is self-evident, and it is amusing to hear Mr. Findlay, who began by asking us if we were serious in setting up the salt traffic after Sir William Forwood's intermediate admissions, and by saying that if the dock is made we shall carry the salt.

Now, that leads me to the last of these attacks—the last attack was on coal—we only ask for 2,000,000 tons of coal of all sorts, both for bunker purposes and export. Here is *little* Garston, with its 14 acres of dock, our *little* Warrington dock being 30 acres, with its bad approach to the water, and its confined area, does 1,000,000 tons of export of coal—more than half of what we are claiming for ourselves, and yet it is an extravagant claim they say. There are one or two distances that are instructive distances; from Wigan to Garston is 22 miles distance ; from Wigan to Partington (which is upon the line of our canal), that is nine miles—why should not we ship Wigan coal just as well as Garston folk, who are more than twice as far away ? Moreover, you have heard from the witnesses that the coalfield is extending to Leigh ; Leigh is only six miles from us. And, further, there is the Worsley Coalfield of the Duke of Bridgewater's Trustees, which is only three miles from us. Mr. Mayhew says, at page 458, that the northern seams of the Wigan district are getting exhausted, and that Leigh will be the future centre of the coalfield.

Now the Wigan coal goes to Liverpool for shipment in large quantities *viâ* Garston, and it costs 2s. 11d. altogether. The railway rate, including tipping 2d., being 1s. 5d., and the lighterage from Garston being 1s. 6d., making a total of 2s. 11d. Now we shall certainly get it at Warrington or Partington for at most 1s. 5d., on the principle of the Denaby Main case, and a great deal less, because it is not easy to suppose that they could maintain nine miles from Wigan, or six miles from Leigh, or three miles from the Duke of Bridgewater's Collieries, a 1s. 5d. rate which they give to the Wigan people for Garston, 22 miles; but on the supposition that they do, we shall get to Partington from Wigan for 1s. 3d. at most, with a canal charge of 1s. 2d., which is a large canal charge, making 2s. 7d., or an advantage of 4d., even if the Denaby Main principle had never applied. Shall we not get it? Why not? What answer is there but an affirmative one to the question?

Now, as to the South Yorkshire coal. I see Mr. Hartley's evidence is given on page 442, and those following. Mr. Hartley is a man of large experience. He is manager of very large collieries, and he gives you the extent of the South Yorkshire field, which is hardly relevant. He states it to contain 23,000,000,000 tons of unworked coal. He says, at page 443, that the Barnsley bed consists of admirable house and gas coal, whilst the South Yorkshire steam coal is a hard coal, very little of it at all inferior to the South Wales coal—that is at page 446—and it ought to be kept borne in mind that the value of the Barnsley hard steam coal has been only lately recognized, but it is now recognized as being very little inferior to the South Wales coal, and a deal better than the North Wales coal, which cannot compete with the South Wales coal. There is hardly any of this coal exported now, which seems very strange. The Yorkshire fields contain both capital house and gas coal, and capital steam coal, and yet scarcely any is exported; whereas Durham exports 37 per cent. of its coal, and South Wales exports 50 per cent. of its coal. Why should it be? Obviously, by the map, it is in consequence of the relative proximity to the coast of the Durham and South Wales coal. What does Mr. Hartley say? He says: "We could send gas coal to California if we could get to the coast," and he says: "I have sent 15,000 tons to California as it is"—that is on page 443, and he further says on the same page: "The railway rates prevent us exporting to every part of the world where gas is made." That is in answer to Question 7202. Now test what he says there, of the value of the coal and the inability they are under to export it, by one or two of the facts that he gives about distance. He says that the coal is 60 miles from Hull, it is 70 miles from Grimsby, and 74 miles from Liverpool. The railway rate to Hull and Grimsby is 3s. 10d., and to Liverpool 4s. 10d. I assume that something must be added for dock dues, but we shall reduce the distance by from 38 to 40 miles—in other words, getting very fast on for halving the distance. This gentleman says, I expect to get a total rate of 2s. 4d. to 2s. 6d—there would be 1s. canal toll paid by the shipper. Ships must, of course, pay dock dues wherever they go, but we, if we find the imposition of 1s. upon a ship

would hamper the trade, have got a large reserve in the ship dues of income for which we have never taken credit, and upon which we can draw—in other words we can say, "You shall not pay 1s. on ship dues, only 6d. or 9d., or even nothing if it will bring about export." Mr. Hartley says that in the canal we shall take 3,000,000 of tons of the South Yorkshire coal; that is on page 446. Mr. Hartley may be over sanguine, but if you divide this by half there would be 1,500,000 tons out of 2,000,000 total, and we only take credit, through Mr. Marshall Stevens, for 2,000,000 tons of coal of all sorts, from Lancashire, Yorkshire, and Staffordshire. Mr. Hartley says further that the West Yorkshire coal, having cheaper water rates, kept the South Yorkshire coal out of Goole. So there they are, they are kept out of Goole by the water carriage which takes the West Yorkshire coal against them; they are kept out of Grimsby, and Hull, and Liverpool by the distance, and hence, of course, the great balance against them in the percentage of export, when you compare them with the Durham and South Wales coal. Now we will redress that balance. We put them for the first time in their history within 40 miles of a port, instead of 60 or 70 miles from a port, and doing that we shall do a trade with them, to their great profit and ours. My learned friend, Mr. Littler, said, Do you suppose that the Manchester, Sheffield, and Lincolnshire will foster Manchester against Grimsby? Why, of course they will—Grimsby is not the only port they carry to now; in this very year I have been opposing them in a Bill they succeeded in passing through the House of Commons; a Bill for making a line connecting their system near Chester with the Connah's Quay Port upon the River Dee, and the evidence they gave was, We want to send coal for shipment, and salt as well, to Connah's Quay. I put Grimsby to them, and they laughed at it. Why, they said, do you suppose we cannot hold two ports as well as one? Of course, they get profit in sending coal, and the very men who have got the line now to send to Connah's Quay, and thereby compete with Grimsby, would be very glad in a similar way when there is a line to Partington by which they can bring coal to our Manchester canal to ship at our coal staiths there, just as well as at Connah's Quay. Besides, do the railway companies think—I do not believe they do—it is their Counsel think, that it is worth while saying that they think—they can keep coal away from a port 40 miles off where it wants to go? It is ludicrous. Do they want to torture the proprietors of the Manchester Ship Canal when it once comes into existence, and the coal owners of South Yorkshire in the same way as the North Eastern Co. tortured the coal owners of South Yorkshire with Hull, until they made a new coal line from South Yorkshire to Manchester, as they are now doing from South Yorkshire to Hull? They had better look out—they may do it. But no one comes from the Manchester, Sheffield, and Lincolnshire Railway to talk that nonsense.

Then lastly upon the subject of coal, there is Mr. Hewitt, who speaks to the North Staffordshire coal. He says that the coal is 37 miles from Manchester; the Barnsley coal being 32 miles from Manchester, and

40 from Partington—the collieries are starving for want of market—Liverpool is 50 miles off, and the rate is 3s. 6d. plus the dock dues. Now I say, supposing that the North Staffordshire people are anxious to send, and ourselves anxious to get a North Staffordshire railway between us and them only too anxious to carry, that we shall not combine on the rate, let alone the canals running from North Staffordshire to Manchester by which we could take the coal. Mr. Hewitt's evidence is at page 462. Of course the trade will come from North Staffordshire as from South Yorkshire, and *pro tanto* the ships will be assured a back cargo. And remember this, you must not forget that I have all along been talking of coal for export; but there is the bunker coal. That is half of the 2,000,000 tons that we want. Now, what I have to say about the great table of Mr. Marshall Stevens is this: it overlies and overlaps a great part of the commercial case, no doubt. I repeat again I do not want this income, though I believe in it. We originally did not state it, although when we were put upon our mettle we found it. We have been put upon our mettle. It has been attacked, and I venture to say unsuccessfully, in any particular point worth your Lordships' thinking of. But give me one-third of it—give me £500,000 out of the £1,500,000 spoken to by Mr. Marshall Stevens. Let my working expenses, instead of being 15 per cent., be a round figure of 20 per cent.; 20 per cent. is one-fifth. Take one-fifth off an income of £500,000, and you leave me with £400,000, and £400,000 is 5 per cent. upon £8,000,000; so that I do not rely on that table at all, though I hope it and believe it. With one-third of it I can get 5 per cent. upon £8,000,000, which is a good thing commercially—a very good thing. And, by-the-bye, let me remind you of the Bridgewater Canal, which will pay for itself. The railways have not ruined it, and I do not think we shall. There is an income of £1,500,000 to pay the Canal. There is really no need of any serious deduction. Mr. Marshall Stevens is probably right that, some day or another, not at once, but eventually, something like that traffic will arise, and Manchester will become a huge emporium, and a large seat and centre of manufacture that would at once cause traffic and be a receptacle of traffic—the creator and the receiver of traffic, which Liverpool has never been; and that is where the great advantage of Manchester will be. And think, your Grace, of this—if an advocate had adopted our witnesses, and had proved, a generation ago, in pleading for the vast docks at Liverpool, the probability of the vast traffic which has since actually arisen in the course of one generation—if he had ventured to tell the Committee in 1857 that in the year of grace 1884, the imports and exports of Liverpool would have been £200,000,000, would anybody have believed him? Not for a moment—it would have sounded ten times as extravagant as anything that Mr. Marshall Stevens has suggested in that table. It would have been ten times more sanguine, according to our ideas then, and ten times more questionable, but the result shows the £200,000,000 as a fact, and shows how mistaken it would have been of any tribunal at that time to have acted in the face of anybody prognosticating £200,000,000 from any feeling of hesitation or incredulity.

CHAPTER XIII.

WORKING EXPENSES.

Now, your Grace, I want to dispose of a little matter which comes very well as a bit of fringe to all I have been saying about the commercial case; which is the question of working expenses. We allowed 15 per cent. after the most careful consideration. We allowed it last year, and we have adopted it this. It was not necessary for us to do it, for I have shown that if we had chosen to take 20 per cent., calculating our income at £500,000, we should have still an income of 5 per cent. upon 8,000,000 of money; and 8,000,000 of money is not by any means a necessary expenditure. The estimate for the canal and channel is under £7,000,000, the payment for the Bridgewater and Mersey and Irwell Navigations being separate and additional. We do not want to give £3,000,000 for the Bridgewater unless the arbitrators say so, so that it is not a question of finding £8,000,000 of capital, and then £3,000,000 for the Bridgewater; but we have plenty of margin.* If we found ourselves in the wrong last year, we could have raised our working expenses from 15 per cent. to 20 per cent., or even more; but, as a matter of fact, we looked about and made further enquiries, as Mr. Leader Williams told you, and found cases comparable to ours, and saw in the case of others, such an expenditure as we thought we might fairly incur, and then we fortified our previous conclusions. Remember, we do not put the 15 per cent. as a mere figure to present to Parliament in arranging the details of a scheme like this. What the promoters naturally do is to consider whether the thing is worth doing, and therefore they want to find out before they can make up their minds whether it is worth doing, not whether it is a thing that will be presented to Parliament fairly well, but whether they will go into it or not. These gentlemen are commercial gentlemen. They are not speculators; they are not the engineers and lawyers whom Sir William Forwood called them; putting forward a scheme which it is their only ambition to pass through Parliament, so as to sell to somebody. It is not like a marauding engineer finding a little hole in the district between two railways, and filling it up with a line and making it, and then hawking from one to the other. People who want to get a scheme of that sort through Parliament put their estimates down to the smallest point, and their working expenses down to the smallest point. We are not in that position. We came for this scheme, because we want it, and wanting it we made up our minds that it is worth having. The essential item for our consideration is what will the working expenses be? How much of the gilt will come off the gingerbread before we begin to enjoy it? I say it was not for the purpose of presenting the probability to our own minds that we got the information leading us to say the working expenses will be 15 per cent. Now,

* The L. & N.-W. Ry. Co.'s Land Valuer in evidence put down the estimated price as £1,320,000.

the only case comparable at all to ours is the Suez Canal. The working expenses upon the Suez Canal are 9 per cent. only. We, taking into consideration the general elements in which the Suez Canal may differ from ours, and that the Suez Canal has not got a dock, said to ourselves, Now, out of our total receipts from the dock and canal taken together, we must consider that the receipts earned upon the dock will be earned at a larger rate of expenditure than the receipts upon the canal. Therefore it will not do to consider ourselves as a canal only, but a canal *plus* dock. If we were only a dock our expenses might be 30 or 40 per cent., according to our traffic, but the canal expenditure is very small; and looking to the probable expenditure upon the dock and then the expenditure upon the canal, watering as an adulterator the expense upon the dock by the general expense upon the canal, we work it out altogether, in our own minds, at 15 per cent. The cases cited of docks are not apposite. Noboby denies that docks are expensive to work, but, upon the other hand, nobody denies that canals will cost little or nothing to maintain. The ordinary expenses of railway working scarcely exist upon a canal. A waterway once constructed remains, and there is as little to be done upon it as there is in the maintenance of railway embankments or cuttings, or viaducts, which are all things which, when once made, subject to repair, are there for ever.

Now, our dock is not a tenth part of our capital expenditure. The capital for our dock altogether is about £1,000,000, the expenditure upon the canal is six times that, so that the relation between the dock capital and the canal capital is one-sixth—and if you suppose the dock receipts are in anything like the same proportion to the canal receipts, you find the dock receipts, the docks being worked at a high percentage, are only a small amount of the receipts of the whole undertaking, worked at a small percentage, the major part of the receipts being upon the canal, worked at a low percentage, it enables you to do a sum of average bringing down the percentage to a very low amount. If you could allocate the dock receipts to dock expenditure, it would be a high relative percentage, but if you allocate the expenses of the canal to the canal which has six times more expenditure than the docks, you would find a very low percentage indeed, and, in all human probability, it would be something like this: Say the Suez Canal expenses are 9 per cent., supposing our canal expenditure in working expenses was 9 per cent., if you have 9 per cent. upon five-sixths of our capital and dock expenses, 40 or 50 per cent., it would be 40 or 50 per cent. upon one-sixth; if on five-sixths the expenses are 9 per cent., and on the other one-sixth 45 per cent., you find you have something like 15 per cent. I do not pledge myself to the exact figures, but that is the principle upon which the argument rests. It is no use, therefore, citing as instances docks having no canals to pull down the working expenses between receipts and expenditure, or instances where docks are owned by railway companies, who forego the dock dues to get the traffic by rail; nor is it useful to cite canals whose expenses are small and in the hands of a railway com-

pany, nor is it pertinent to cite cases where the canal companies are carriers, because there they have many incidents of a railway company. A great deal of the working expenses of a railway company is incident to the fact that they are carriers carrying at a very small margin of profit. When you lump the maintenance of the railway and working expenses of the traffic together they get to a very high percentage, and that is true of canals that are carriers. And it is equally inapposite to take the case of a canal whose traffic is very small. I will use the analogy used by the other side—of the Huddersfield Canal. Mr. Findlay says the working expenses on the Huddersfield Canal stand at £300 a mile, the receipts upon the Huddersfield Canal are ridiculously small. It is obvious that the receipts bear a poor ratio to the working expenses: but supposing you quadruple the receipts upon the Huddersfield Canal, you would lower the percentage of working expenses to a remarkable degree. Now as to the Manchester Canal, let us suppose, instead of having to pay £300 per mile a year to maintain the Manchester Canal, I should have to pay ten times as much. Multiply your £300 a mile by ten; it is not ten times the size of the canal, but let us make it ten times the size of the canal, and let us say it will cost me to maintain the Manchester Ship Canal lined with stone and on a rocky bed, if I spend £3,000 per mile upon it per annum, which is radically impossible. It is 21 miles long. I will multiply the £3,000 by 20, that is £60,000 a year. £60,000 a year would equal 12 per cent. only upon £500,000. So that if I were to say I will undertake to spend 10 times as much per mile as you spend upon the Huddersfield Canal, it will bring it to £60,000 a year working expenses; so that you see the Huddersfield Canal, so far as it is an analogy at all, you may treat it in that offhand kind of way, and find that after all said and done it shows we have given an ample margin in our 15 per cent.

Mr. Pope, who is always candid, and perfectly easy to do business with, admits the irrelevance of these dock comparisons—he says, in the course of the cross-examination of Mr. Findlay on page 1909: "I distinguished between docks and canals purposely yesterday, I gave you credit upon the canal of being a toll taking and not a carrying company. Your expenses *qua* canal would be limited to maintenance but not *qua* docks *qua* docks you must work as well as maintain *qua* canal that is not so." That is the line they take. It was especially unfair to take Garston in taking the docks, because 75 per cent. of the traffic at Garston pays no dues at all—Mr. Findlay says so at Question 24588, page 1911: "May I take it for the purpose of calculation that coal and minerals are nearly three-fourths of the whole traffic?—The figures speak for themselves. I said that yesterday. (Q.) Are there any dock dues upon chemicals?—If that is important I will give a list of what the dues are." He said it in another shape that fully three-fourths of the traffic at Garston did not pay any dues at all, and the expenses as he shows you in his table on that same page, 1911, include all the terminal disbursements at the railway station, so that the expenses at Garston of course look heavy, it is not only the dock but the railway station, and in

considering the disbursements at Garston you consider, not the disbursements proper to the dock only, but to the railway; it is as though at Liverpool the terminal expenses of the railway companies using the Liverpool Dock were added to the Liverpool Dock expenses proper to get the ratio. The total expenditure at Garston represents the expenditure on Garston as a dock proper, and also a railway terminal station, and besides that the railway company only charge dues there upon 25 per cent. of their trade.

My learned friend, Mr. Pope, suggested to Mr. Findlay a figure which is also instructive upon the matter of working expenses. Mr. Pope said, Suppose they did as good a trade as Hull, what would they make? and the answer is, £130,026 a year. That is in answer to Question 24157, page 1866—that is *net* income. Now Mr. Pope was wrong, or rather Mr. Findlay was wrong, in suggesting that if we did as good a trade as Hull, we should only make £130,000 a year, and he was wrong for this reason, that our dock rates and wharfage are higher than they are at Hull, and therefore if we do the same trade as they do at Hull we should make a larger income—that is one thing. But Mr. Pope forgot a still more important item than that. I will not lay any stress upon that, and I will take his figure of £130,000 for the dock, but he forgot that besides the £130,000 of Liverpool Dock dues ships must use the canals to use the docks. Now the rates per ton upon the canal are far higher than in docks, both for goods and ships. I have a list of what they are there, including such articles as raw cotton, white lead, sugar, imported timber, guano, pig iron, chemicals, manufactured cotton, cotton yarns, hardware and earthenware, and so on, and I will take one which is a fair average, cotton. I see the cotton pays wharfage 1s. 9d., which is 21d. I see it will pay for the canal toll 4s. 3d., which is 51d., therefore, striking out the two ones, the relation of payment to the dock in regard to a ton of cotton, and the relation for payment to the canal in regard to a ton of cotton, is as two to five, or the canal five to two of dock—that is a fair average one. If that is so, to get at what we should earn upon our undertaking, if our trade was as good as the trade done at Hull, if I give up the fact that our wharfage is higher than at Hull, the rule of three sum would be this: As 21d. is to 51d. so is £130,000, which I should make upon my dock, to what I should make upon my canal. I mean that if a certain amount of the trade coming into the dock would bring £130,000, that same amount of trade must have brought five to two in coming up my canal, in canal dues, whereas Hull has only her docks to depend upon, the same tonnage of trade giving her £130,000 giving us more, because our wharfage is higher; it gives us a far higher figure again, because we have the canal which the ships must use, but Hull has no canal which the ships must use. Now take a ton of cotton as an average thing, what it would pay upon my canal would be as 51d. is to 21d.—as 21d. is to 51d. so is £130,000 odd to the result required, and the result is £315,777; therefore, with a trade like Hull, I shall earn £130,000 at least subject to the addition I have not counted, and that my canal represents £315,000 odd more, with a trade

such as that at Hull my docks and canal would earn me £445,803.* That shows the rashness of putting such questions to Mr. Findlay. The £445,000 is net, and for this reason that the £130,000 at Hull was net, and I have done the proposition in this way: as the net receipts, £130,000, are to the net receipts £315,000, by using the canal; so the net receipts of the dock are to the net receipts of the canal, that is the rule of three, so that, according to that, if I can do the same trade as Hull, I get a net receipt of £445,000, which is 5½ per cent. upon a capital of £8,000,000. In fact, on a ton of cotton, by being a canal as well as a dock company, where Hull only gets 6d. we get 6s., because our wharfage on the cotton is 1s. 9d., and the canal toll 4s. 3d.—so that we get twelve times the gross traffic receipts that Hull gets, even if we do not obtain a greater bulk or quantity of traffic. I am compelled to take the net traffic in the docks the same as the net traffic of Hull, and then say the net traffic is as five to two, the net traffic upon the dock; that gives £445,000 upon £8,000 000, which is 5½ per cent. Therefore, I may say this, that upon the subject of working expenses, without troubling you to go into the question whether or not I am right upon the 15 per cent., if I did the trade at Manchester which they do at Hull, I should get a net result, and that net result would be achieved by getting that as the net result after a deduction of the dock expenditure at Hull, which is 48 per cent. I see Mr. Leader Williams told you how he got at 15 per cent.—he says at page 619, in answer to Question 9269, "I think from my experience upon other rivers that 15 per cent. per annum would be a very fair rate to allow for maintenance. (Q.) That is 15 per cent. of the gross takings?—It would be a very large amount; the percentage must vary with the amount of revenue—it would be more at starting and gradually would get less; that is the great advantage of a waterway; on all other systems of carriage, railway road or tramway, the wear and tear increases precisely in the ratio of the traffic, but in a waterway it is not so, so that as you increase the traffic you may lower the rate if you wish to do so." That is so. Water does not wear out, that is the whole truth. You have made your canal in the first instance and filled it with water, and as long as the skies and the artesian wells provide you with water, your waterway maintains itself. Your waterway is the permanent way of the railway, and that is where the expenses go. Therefore, I say even if I were to take some of their false analogies like the Hull Docks, I get an uncommonly good profit, even supposing I pay the outrageous percentage which I shall never pay, for working expenses, and if I take another false analogy like the Huddersfield Canal, and say by rule of thumb I will spend ten times what you spend, I do not even then get up to 15 per cent. That is all I can say as to working expenses. You cannot expect to have the same amount

* Note.—In the articles named the average charges for Ship Canal toll and wharfage combined would amount to about 12 times the income at Hull from wharfage alone, or, following Mr. Findlay's method of calculation, £1,560,000.

of evidence or analogies upon a point of that kind which, to a certain extent, must be problematical; but you have enough to lead you to the point that we, attempting in our minds in a wise manner before we came for the scheme to see what the working would cost us, have not gone far afield in fixing upon the 15 per cent.

CHAPTER XIV.

WAREHOUSES.

Another small point is the point of warehousing. We have not provided warehouses to any extent upon the canal, we provide lots of sheds, but warehouses we have not gone into, we are going to buy some – part of our total expenditure will involve the purchase of a large number of warehouses belonging to the Bridgewater Canal. People who oppose a scheme like this bring everything they can in evidence against it. They say, You have not allowed anything for warehouses; then they say, There is an immense amount of warehouses in Liverpool, which cost £5,000,000; the trade of Liverpool is carried on upon the basis of having warehouses for the storage of 1,000,000 tons of merchandise in the town. Very likely. The warehouses all over Liverpool are commensurate with the Liverpool trade—there are plenty of warehouses available about Manchester, and plenty more will spring up. The warehouses at Liverpool have gradually sprung up as the trade of Liverpool has gradually increased. No one thought it necessary to twit the people coming for docks at Liverpool in the first instance, with the fact that they had not provided an unheard-of sum for the trade that might some day arise, and require warehouses. The warehouses at Liverpool have gradually grown up by private speculation—that is upon page 1878, in answer to Question 24291: "Private persons build warehouses in Liverpool, and persons wanting to use them pay rent for them in respect of goods stored in them. The same process may be carried out in Manchester, a private company may build the warehouse and the merchants may have the use of it." That is a hypothetical question put by my learned friend, Mr. Balfour Browne, to Mr. Findlay—then what does he say: "Granted all the same conditions in Manchester as in Liverpool, probably the same result would ensue, but I cannot assure the same conditions." What condition is likely to be different? If there is a large dock at Manchester, forming a terminus of import traffic into Manchester, why should not private people erect warehouses to accommodate the traffic, just as private persons erected

private warehouses for the import traffic to Liverpool? Mr. Lyster and Mr. Hornby said the same thing—that private enterprise provided warehouses in Liverpool. I say private enterprise would provide them at Manchester. You had a long list of warehouses empty which might be used at present, or might be arranged for the storage of cotton or other goods. Mr. Lyster and Mr. Hornby, I believe, one or both of them said what is perfectly true, that the Dock Board have spent nothing under the Act they obtained 11 or 12 years ago, in 1872 or 1873, on warehouses. They took power to spend £100,000 in case they might find it advisable to do so, but they have not done so—they find it more advisable to let the public provide their own warehouses; and what is true of them as a Dock Board, has proved true of the Clyde Trustees—they took power to spend more money upon warehouses, but they have not done it—they have found that private enterprise conducts the warehouse business better than dock companies or public trusts can do. And to show how completely this is relegated to private enterprise, Bristol has the same thing; none of the docks at Bristol, or at the mouth of the River Avon, own warehouses; none of those own any warehouses. The railway and canal warehouses taken together, says Mr. Findlay, at 23,985, only hold 177,000 bales of cotton—177,000 bales of cotton, or 35,000 tons; that is, not one-twentieth part of the annual import. Mr. Findlay also says, which shows the non-necessity for warehouses for the cotton trade, that only 55 per cent. of the cotton imported is warehoused at all; that is at page 1845, Question 23987: "Can you give me the percentage of the cotton received from the Lancashire and Yorkshire by you which is warehoused against that sent to the mill?—It has been ascertained after some inquiry to be 55 per cent." And though that is the fact, that their warehousing power is so small, and that only 55 per cent. of the cotton required warehousing, it is worth observation upon the general subject of the charges that the trade has to pay, that they give no rebate on the cotton rate which includes warehousing for two months, if the warehouses are not used. Now, the moral of all that is that the warehousing business is not a dock company's business—it is a private business of its own, and exists as a private business in all these great cities, and I may add in London as well, though there are dock warehouses in London, the East and West India Docks. Here you have three great cities, Bristol, Glasgow and Liverpool itself, where the warehousing is not done at all by the dock authorities, but is left entirely to private enterprise. I am wrong. There are some old dock warehouses in Liverpool under the Act to which I referred. At Liverpool for the last 11 or 12 years, I venture to say that the dock authorities have apparently arrived at the determination to leave the building of dock warehouses alone, and now have been built in connection with the large New North Docks.

CHAPTER XV.

THE CAPITAL.

Now, I pass to a subject which I approach with considerable satisfaction to myself, and that is the question of the consensus of the monied classes and the capital question. I confess for some time I have been pretty eager to get to that, and I approach it with a light heart. We will take the consensus of the monied classes first. Now what does the denial of that consensus mean? What does my learned friend, Mr. Pope, who started this idea last year first, and has harped upon it this year, mean by what he says? It savours to me somewhat of affectation, as though there were some clique apart in these manufacturing districts from the rich capitalists engaged in trade, the rich people out of trade, who perhaps have been in trade, or whose grandfathers have been in trade, a sort of aristocracy of the trade, who sit apart as censors of an attempt like this, to patronize it on the one hand or condemn it on the other. I know no such class apart in the manufacturing counties. But if there were it might be said as to their approval or disapproval, it is alike worthless. I should say then that they were men whose days of energy were over; I should say they were the timorous rich men of Manchester with established investments, with which a great scheme like this would be in conflict; the Mersey Dock Bonds or the London and North-Western Debentures, perhaps, or they would be the sons or grandsons of people in that condition, who rather have grown up to look down upon trade, and, knowing nothing about it, say, for the same reason, "I have got my investments, and I became rich under a happy state of things, and I see no reason for the alteration, and I will have nothing to do with it." That would be the sort of people. But I do not believe in the existence of such a class. The only class I recognize in the manufacturing districts as having anything to do with this are the rich people who are engaged in trade; and those I have got to a man pretty nearly. What do you say now, for instance, in considering the question of the monied classes and the important classes engaged in trade, to the resolution last February of the Manchester Chamber of Commerce? Do they represent the monied classes engaged in trade? What do you say to the resolution of the Associated Chambers of Commerce in London? Do they represent the people engaged in trade, or will they represent the unthinking masses, which is the phrase my learned friend, Mr. Pope, adopted? What do you say to the general consensus of the meeting of the Salford ratepayers where £8,000 was subscribed rateably? There was no subscription from the Chamber of Commerce, because, of course, there are no corporate funds, as has been explained to you; but members have subscribed, and a great number of them. Then, what do you say to the Manchester Corporation subscribing £10,000? And, lastly, look at the list of the Committee. That contains many, if not most of the great firms in Manchester, and the associated towns through some

representative member or other. Look at the class of witnesses we called. Mr. Spencer, representing Rylands and Company; does he represent a firm which may be called one of the monied classes engaged in trade? He has subscribed £500 to the Parliamentary expenses, and he says, Mr. John Rylands himself has also subscribed £2,000, and is ready to take £50,000 of the capital, and the firm will also subscribe to the capital. He declared that the scheme is growing in favour with the monied classes, and he and Mr. Rylands believed in its financial success. Again, does Mr. Walmsley, the President of the Cotton Spinners' Association, alone representing at least 37 millions of capital, belong to the monied classes engaged in trade, or is he one of the unthinking masses?" I will ask the same question of Mr. Bradbury, the managing director of J. H. Gartside & Co., Limited, To which class may he belong? I repeat the question of Mr. Andrew, the Secretary of the Oldham Master Spinners' Association, or Mr. Joshua Rawlinson, Secretary of the North-East Lancashire Cotton Manufacturers' Association. Whom do they represent? The substantial people engaged in trade? Whom do all these people represent—the substantial people engaged in trade, or the "unthinking masses?" Then I come to Mr. Alderman Hopkinson, of Manchester. What does he say? He said that the monied classes, though they were slow to come in at first—and rightly—till they had thoroughly looked into the scheme, because of competing investments—although they were slow to come in—from the caution which all people show when they begin to grow rich—he says they have come in now, and they were well represented at the Manchester's town meeting in November, 1882. Now I ask you to set what he distinctly says against my learned friend, Mr. Pope, upon the subject. He calls it the largest representative meeting of the monied classes ever held. At page 180, in answer to Question 2550, he says: "You must remember that we had one of the largest representative meetings of the monied classes in Manchester, over which I presided in the Town Hall, which was crammed full with numbers of representatives of the monied classes, and resolutions in favour of the canal were carried unanimously without a single dissentient. Resolutions were proposed and seconded, the whole of them by men representing enormous interests, and they themselves of enormous wealth." What is the use of people going about, by way of prejudice, having no sound argument against a scheme of this sort, to talk in that rash way? Then Sir Joseph Heron, the present Town Clerk of Manchester, surely a representative man, says that no less than 40 members of the Manchester Corporation have subscribed, and he read the resolution of the 5th of March, on page 184, which has been brought before you. Mr. Mackinson, again, the Mayor of Salford, speaks to the resolution of the Corporation and the ratepayers to subscribe one penny in the pound upon the rateability of Salford. Mr. Hall, of Ashton, the agent and trustee of Lord Stamford, speaks to the general feeling in favour of this scheme, and my learned friend, Mr. Pope, elicited from him that Messrs. Mayall, the largest firm of spinners of Mossley—indeed in the world—are in

favour of this scheme. Then comes Sir Joseph Lee. Was Sir Joseph Lee made a knight because he was one of the "unthinking masses," or because he assisted and advised it in the Foreign Office on Commercial Treaties? He is a cotton spinner and manufacturer, and he comes to represent the Chamber of Commerce of Manchester by resolutions of the members, and speaks as to the importance of the general feeling. Mr. Crossley, of Halifax—I wonder whether he and his firm are members of the monied classes, or whether they are units among the "unthinking masses?" Then comes Mr. Samuel Ogden, a well-known merchant and manufacturer in Manchester. He says the scheme grows in favour, and he said: "I never knew the Chamber of Commerce to take such an interest in any scheme before." That is upon page 310. Then there is Mr. Baerlein. Is he one of the unthinking ones? He exports, however, 25,000 tons a year. Mr. Platt, of Oldham, a name that I have heard before, whose father sat for Oldham for a long time—I wonder whether he is a member of an important or an unimportant firm. They are *only* the largest people in their own way, as machine makers, in the United Kingdom, employing about 9,000 workpeople. He comes representing the feeling of Oldham people and the Corporation, and he says the Corporation of Oldham want a clause enabling them to subscribe a penny in the pound of the rateable value to the scheme. Then comes Mr. Leech, of Manchester, yarn merchant, a member of the Town Council and of the Chamber of Commerce. He says that he mixes largely with the commercial men, and he says that the feeling is almost unanimous in favour of the scheme. At page 910, at Question 13880 he is asked: "What reasons can you give to the Committee for your opinion as to the finding of the capital? —The very favourable reception which the scheme has had altogether, and that it is supported by the largest employers of labour and the wealthiest men in the district." And then he is asked at Question 13886, "Have any promises been made to you with respect to taking shares in reference to the capital?—No; in conversation I have gathered that shares would be taken because the men have said that they were perfectly willing to take shares and to a large extent. (Q.) To what extent generally?— Roughly speaking £150,000. (Q.) That is merely amongst your own personal friends?—Yes." Then Mr. James, of the firm of Michaelis James and Co., large merchants in Manchester, says the same thing as Mr. Leech. Mr. Hicks, underwriter, at page 966, is asked, at Question 14651: "There have been some questions asked as to whether the general body of subscribers to this scheme as far as it has gone are many of the wealthiest men in Lancashire or not, what is the case?—It is most astonishing that such statements could be made. They include nearly all the monied men of the Lancashire district so far as I know them. (Q.) You mean the subscription list to the preliminary expenses includes nearly all the wealthy men in Lancashire?—Yes; it includes all the wealthy men in Lancashire—the people that I have any knowledge of." Then Mr. Jacob Bright, the member for Manchester, says that the feeling is general in every class. He speaks as to the growth of public opinion in the

monied classes. That is at page 974, and at page 975, at Question 14737, he is asked by my learned friend, Mr. Pope, "Can you distinguish in these cases between those who subscribed last year and those who renewed their interest in the present year?—With reference to this list [a list of the leading subscribers to the Bill] it contains, I believe, by far the larger part of the most eminent firms in Manchester, men of all kinds of businesses and occupations; I believe it contains by far the larger part, and if anybody who knows Manchester well were to go through this list—and there are such men—if you were to get an intelligent Manchester banker and ask him what he thought of the money which this list represented, or perhaps I should say, what he thought of the millions of money represented by the names in this list, he would tell you that it is such a list as probably had never been seen in Manchester before in connection with one single object. Mr. Pember: What shall I put it at, 40 or 50 millions of money?—I do not like to say," showing that the figure does not frighten him at all. He says, even Mr. Armitage, M.P., has changed his mind, and is now thoroughly in favour of the scheme; Mr. Armitage, who did damn us with faint praise last year, but whose evidence my learned friend, Mr. Littler, gave us the substance of, so that I do not mind being twitted with him.

Now, as to what Mr. Bright says at Question 14754 about Mr. Armitage, just let me read you what he told the Committee: "The prospect of the ship canal being made will depend upon the monied classes, will it not?—I presume it will. (Q.) And they are at all events less enthusiastic than the working classes?—They are not fully persuaded yet of the desirability of the scheme—that is to say of the practicability of the scheme I should say. (Q.) When you talk of the practicability, I suppose you mean the practicability of making it a financial success?—I mean by that that we shall both materially reduce the rate of freight and also make it beneficial and remunerative to the investors. (Q.) Those are the points upon which the monied classes are not fully convinced?—Yes. (Q.) Have you considered the financial prospects of the canal?—I have not. (Q.) Not at all?—Not so as to give an opinion as to the point upon which I last spoke that is to say as to the profitableness of the adventure and also as to the reduction in the rates of freights. (Q.) So that at at all events, Mr. Bright, I may take this, that though Mr. Armitage's name appears upon this list, its appearance there must not be taken (because this evidence was taken after that) as expressing his view at the time of the financial prospects of the undertaking?—I heard Mr. Armitage give that evidence, and I have no doubt it is correctly reported there, and I should think there is very much truth in what he said. He said that the monied classes of Manchester were not yet fully convinced, and so on, that there were certain doubts, and that he was amongst that class, and also had those doubts. I am happy to say that the doubts in Mr. Armitage's mind have been removed." When people cross-examine they must look out what answers they get; and then my learned friend, Mr. Pope, who was the inventor of this notion that the monied classes were out of it, and that the unthinking masses alone were the persons who

were enthusiastic about the measure, says this, in answer to Mr. Bright, to whom I was putting the list of the subscribers and asking him what sort of people they were, and getting that answer that they represented millions of money, my learned friend, Mr. Pope, says: "I admit that if it were a list of subscribers to the undertaking, then I would undertake to say it would be *as remarkable a list as was ever formulated.*" Is it not astounding that people can be so inconsistent? He says, again, "*Of course, I am not going to discredit so remarkable a list as that in the least:*" "I should be doing myself an injustice, and you, too, if I did not acknowledge that there is a very widespread interest in the scheme at all events whatever that may amount to." What it amounts to is this, that all these gentlemen became combined in as *remarkable a list as was ever formulated.* All they have done is to subscribe £100,000 to get the Bill. But does it or does it not show the consensus of the monied classes in favour of the measure? And what is my learned friend Mr. Pope's phrase? "I admit if this were a list of subscribers to the undertaking, then I would undertake to say it would be as remarkable a list as was ever formulated." That is an admission made by my learned friend Mr. Pope after, I was going to say, audaciously suggesting to Mr. Holt that there was no one in it whom he and Mr. Holt would understand as having a balance at his bankers except Mr. Rylands. That is at page 961. He is asked: "Tell me, except Mr. Rylands, whose letter was read yesterday, anybody else that you and I would understand in Lancashire as a man with a balance at his bankers," and the next morning he positively says "that is as remarkable a list as ever was formulated; and if it was only subscribers to the scheme instead of preliminary expenses, I should say so in every sense of the word." Now that is the consensus of the monied classes. What are they subscribers for? For the fun of getting an Act of Parliament? For the amusement of deluding the "unthinking masses," or do you suppose they would spend £100,000 for that, or are they spending £100,000 because they are fully convinced that if they are successful before your lordships they will get a scheme which is thoroughly well worth their having for themselves and for all the trade of Lancashire too? They are, instead of deluding the unthinking masses, coming forward as champions of their own interests and of the population of Lancashire to boot. Such are the class of men who have combined in most unusual numbers, in hundreds, to ask for this measure, after long thought as to their needs, and long and careful investigation as to the feasibility of the thing; they did not go into it in a hurry—they spent £65,000 in one year in attempting to get it, and, unfortunately, unsuccessfully; they ascertain that £35,000 more will renew the contest, and give them the chance of being successful in the second year, and they find it—this £65,000 was not wanted the second year, because the surveys were made and the scheme was prepared subject to a few alterations. Now, for what do you suppose they found the money? For the mere pleasure of getting an Act of Parliament—to go back to Manchester with something on the Statute Book? Surely a statute is a poor toy to spend £100,000 for. Of course, they mean to carry the scheme out. Not to mention all the other

trades, there is £100,000,000 invested in the cotton trade alone. In our iron and machinery manufacture, in the timber, and coal trades, in our merchants and shippers, in our grain, provision, and miscellaneous trades, in our cotton spinning manufactures of various sorts, we must have called a representative of at least that aggregate capital, or I am much mistaken. Do you suppose that such a commercial *caste* as that cannot find the money? Quite lately Oldham has invested some millions of money in cotton spinning mills, and the evidence that such a *caste* as that will find the money is positively overwhelming. You do not expect to find sovereigns on the table. The days of subscription contracts are over. Parliament used to insist upon subscription contracts years ago. Parliament no longer asks for a subscription contract; all that it demands is indications that the capital will be forthcoming. No one now thinks of making arrangements for capital for any measure large or small, whether £100,000 or £5,000,000, or £10,000,000 until the Bill passes, and the larger the capital the surer they will be not to make any arrangement. Therefore when you come to a sum like £6,000,000, £7,000,000, and £8,000,000, it must be raised in a certain way; it must be raised in a perfectly methodical and scientific manner; it is no use putting Mr. A. in the box saying that he will take £50,000. I do not want to say anything about Mr. Rylands's £50,000; I am quite ready to let that pass. I found myself, before I knew where I was, pledged to say there was a letter of Mr. Rylands's with respect to subscribing capital; but if I called a dozen men to say they were going to give £50,000, if I called 20 men to say that they were going to give £50,000, it would not be much out of £7,000,000 or £8,000,000, and I should still be open to the reflection that I had only shown a small percentage of the capital required. What you want is a general illustration of the fact that the people who are behind this measure are first of all in earnest; and, secondly, that they have got the ability to find the money. I say go through the length and breadth of Great Britain or the world, you could not find a *caste* more able to find the money. As to their earnestness, what do they spend £100,000 for? What do they come here day after day and week after week dawdling before this Committee daily until they are called, leaving their business behind them? If they are in earnest, what further indication do you want of their intention to find the capital? What stronger indication can a Committee of Parliament have than the declaration of capitalist after capitalist, functionary after functionary, mayor after mayor, alderman after alderman, president after president of Chambers of Commerce, or other public bodies, trader after trader, that the money will be raised, and raised easily? and they all tell you that; if you do not believe them I cannot conceive what group of men you could believe upon the subject. If you are simply going to be frightened by the fact that it is £8,000,000 of money, there are tolerable proofs that £8,000,000 will be found in other ways. They say that the Suez Canal cost altogether £20,000,000 of money. It was thought as wild a bubble as my learned friend, Mr. Pope, accused me of blowing,

and not only is the £20,000,000 found, but it is used, and they want £8,000,000 more, to increase the size of the canal, and they will find it. What more do you want? We have called no fewer than 30 witnesses, all in different capacities, all gentlemen entitled to great weight, who have given the strongest evidence on the point. I will read their names: Mr. Daniel Adamson, the chairman of the Provisional Committee; Mr. Spencer, representing Messrs. Rylands and Company; Mr. E. Walmsley; Mr. J. Walthew; Mr. S. Ogden (a Director of the Manchester Chamber of Commerce, and a leading merchant, and chairman of several important companies); Mr. Fielden (Mr. Fielden is not very wealthy, but he is, on the other hand, a cotton manufacturer and a public man, not well known among us in the south, but well known as a great statistician and authority on the Cotton Trade in the North of England); Alderman Hopkinson; Sir Joseph Heron; Alderman Bennett; Alderman Thompson; Mr. Joseph Leigh; Alderman Makinson, the Mayor of Salford; Mr. Henry Hall; Mr. McNeil; Mr. Robert Wilson; Mr. S. Mendel; Mr. Moir Crane; Mr. Alderman Husband; Mr. Platt; Mr. Stevens; Mr. Leech, Mr. Boddington; Mr. Bailey; Mr. James; Mr. Holt; Mr. Hicks; Mr. Jacob Bright, member for Manchester; and Mr. John Slagg, the other member for Manchester; Mr. Arnold, member for Salford; Mr. S. Andrew, of Oldham; and Mr. Rawlinson, of Burnley. Are you going to disbelieve these people, and to say that the *caste* which they represent, and in a great measure who represent hundreds of millions of money invested in businesses which they see stagnating or pining, and they believe conscientiously to be in a decline, cannot find a tenth or a twentieth part of the money invested to save what they have already invested? The notion to me is too absurd for argument. But let us see what they say. I do not suppose it is all here; but I will see what a few of them do say. Says Mr. Adamson: "There will be no difficulty in finding the money for this canal. If I had doubted it," says Mr. Adamson. (It seems to me he speaks with uncommon good sense.) "If I had doubted it I would not have given my time and money to pursue this matter." Capitalists, manufacturers, and merchants are supporting us more this session than last." Then he admits that nothing is subscribed to the undertaking. Mr. Reuben Spencer, director of Messrs. Rylands and Sons, says, "Mr. John Rylands is prepared to support the scheme with capital at the proper time." "Much larger support from capitalists this year than last." "I have no doubt in my own mind that the capital will be raised." "Mr. John Rylands and I are both prepared to invest in the company." "A reasonable dividend may be expected from the traffic placed on the canal." Says Mr. Walmsley, the President of the Cotton Spinners' Association, "It will be a financial success;" "The capital will be forthcoming;" "I shall take shares certainly." Mr. John Walthew, a large cotton spinner, says, "I have no doubt whatever the capital will be raised;" "we take it for granted the millowners will be in favour of the scheme, but taking the population outside the millowners they are largely in favour of it." Mr. Fielden says, "Some of the oldest merchants who have

made the greatest fortunes and conduct large businesses thoroughly approve the scheme. There is not the slightest doubt it will be carried out if sanctioned." Mr. Andrew says, "There will not be much difficulty in raising the capital ; they will be bound in their own interest to support the canal in order to have cheap traffic." Mr. Andrew is the secretary of the Cotton Spinners' Association at Oldham, and he represents many millions of capital. "One of the largest representative meetings of the monied classes," says Mr. Hopkinson, "ever held in Manchester passed resolutions at the Town Hall unanimously in favour of the scheme. The resolutions were proposed and seconded by men representing enormous interests and of enormous wealth." "No meeting could be more representative of the monied class than the Chamber of Commerce meeting." Then there is Sir Joseph Heron, the Town Clerk of Manchester, who surely knows something of the monied classes and of their intentions. Surely he knows something of what their powers are. He says, "I have not the slightest doubt the money will be raised."

"Look at the trade of the district—the wealth. When we see what is raised in the district from time to time, the idea that there could be any difficulty in raising even £10,000,000 could hardly reasonably be entertained." Then let us take Mr. Alderman Bennett, a Director of the Manchester Chamber of Commerce. He says: "The capital will come in without difficulty, there is such a universal feeling all over Manchester and the district in favour of the Bill, and the canal is so much required to cheapen the carriage of raw material from Liverpool." He has the sanction of the Chamber of Commerce to say that the canal is so much required. "I have the greatest confidence it will be a financial success," says Mr. Alderman Thompson. "I do not think there will be any difficulty in obtaining the capital," says Mr. Joseph Leigh. "I do not think there will be any difficulty in raising the capital ," says Mr. Makinson, the Mayor of Salford. "I feel no doubt whatever that the necessary capital will be forthcoming." Says Mr. Henry Hall, the agent and trustee of the late Lord Stamford, "I have no doubt whatever that the money will be found ; there is plenty of money awaiting investment, and if the Bill passes the money will be forthcoming." Says Mr. McNeil, "I believe the capital would be raised certainly—I have not the slightest doubt of it." "One friend of mine intends to take £50,000. I have heard other friends speak of smaller sums." I do not care twopence what anybody says and will suppose. It is the universal consensus of the monied classes that I want that the money will be found. Says Mr. Mendel, "I think the capital will be subscribed." "I have heard people in Manchester say they will be without limitation, take an interest in the venture—I mean in the undertaking. Many persons whom I have met have said so." Then Mr. Moir Crane says, "I suppose I shall take shares."

Mr. Ogden says, "If I may judge from people's conversation I should say the probabilities of their subscribing have grown decidedly since last year." Mr. Alderman Husband, says, "I never had any doubt that there

would be very little difficulty in finding the capital. I have not the slightest doubt of its being raised by people who will put it in as an investment and expect a return." "There is a general disposition on the part of persons of moderate means to take shares. I have been told by a number of persons that they intend to take shares." Says Mr. Platt, of Oldham, the great machine maker, "I think decidedly a large amount of capital will be subscribed in Oldham." "I think the shares would be a good investment, and shall probably be inclined to go heavily into it." Mr. Marshall Stevens tells you, "We have asked as yet for no capital, only subscriptions to the expenses." Mr. Leech says: "I have no doubt whatever the capital will be found"—"I think so because of the very favourable reception the scheme has had, and that it is supported by the largest employers of labour and the wealthiest men in the district." "No one has yet been asked officially to subscribe to the capital, only to the preliminary expenses." "I believe a large number of shares would be taken up. I think so from mixing up with a great many business people and from the current conversation." "Among my own personal friends I think £150,000 would be taken." "I am authorized to speak on behalf of Mr. John Rylands." ("After discussion the witness is allowed to read Mr. Rylands's letter, in which he states his intention to subscribe for at least £50,000 of shares.") Other similar letters he was not allowed to read. "I intend to take a substantial number of shares." "I thoroughly believe the investment will pay." "The Bridgewater Navigation pay 8 per cent., the Leeds and Liverpool 20 per cent. The Aire and Calder do not publish their accounts, but rumour says they pay a large dividend,"—there is no doubt whatever about their paying a good dividend. Mr. Boddington says, "I think there will be no difficulty in raising the capital," "I intend to take £10,000 worth of shares. I believe that where there is such a vast population the canal must inevitably pay." Says Mr. Bailey: "I think the capital will be subscribed in three or four days." "I shall take a few thousand pounds. If the project is not mutilated it might alter my opinion." A noble lord said that the amount actually subscribed is only £70,000. It is not so. Mr. Rylands has said he will subscribe £50,000; Mr. Boddington has said he will also subscribe £10,000; and Mr. Bailey a few thousand pounds—Mr. Platt, of Oldham, intends to go heavily into it—Mr. Leech personally and friends bring the matter considerably above that. But I do not lay any stress whatever upon the exact sums promised in an individual case here and there. All I can say is, that here you have got an accumulation of evidence, not as a matter of opinion, but so overwhelming, that I never remember anything like it in a private Bill in Parliament before. Then Mr. Bailey says, "I shall take a few thousand pounds. If the project is not mutilated it might alter my opinion." The Chairman says it cannot be mutilated. "The monetary classes and the manufacturing classes have given the strongest possible support." Then he says again, if it were worth mentioning, "I can bring half-a-dozen who can put in £200,000 or £300,000 if need be, and who have said so." So that it goes a good deal beyond the £70,000 in your lordships' mind. Then

Mr. James says: "I and my partner intend to take shares, and know a number of gentlemen who are prepared to do so. My firm will take £5,000 worth of shares." "I think the capital would be subscribed in a short time, perhaps five or six months"—"I think if the Bill was passed conditionally on £8,000,000 being *bonâ fide* subscribed in six months the money would be forthcoming." "I think the shares would be taken up mainly in Manchester and the neighbourhood." Says Mr. Hall, "I believe the money would be forthcoming." "I personally know several who would subscribe. I and my partners are prepared to"—"I should take a few thousand." Says Mr. Hicks: "I have no doubt about the capital being found." "A lot of monied men who would not subscribe last year have subscribed this year. After the question had been discussed 39 days in the House of Commons last year, and the Committee without any asking on our part, inserted a clause in the Bill that the canal would be most valuable for the interests of Lancashire and ought to be sanctioned," a great many have come round to its support. "I would take shares, because I believe it would be a profitable investment." Says Mr. Jacob Bright: "I should say that the statement that the monied class and capitalists of Lancashire were not supporting the scheme was untrue." Then says Mr. Bright again, truly: "The undertaking not having become an Act of Parliament we cannot deal with it in the way of subscription." "If the Bill passes, of course the Canal will be made." "If I find there is generally great faith in a powerful community in favour of an enterprise, I should assume absolutely that the capital would be raised and the enterprise completed." Then Mr. John Slagg says: "I think there would be very little hesitation on the part of the financial public in finding the necessary capital;" "I think the capital will be subscribed."

That, your Grace, without saying that it is exactly every word that has been said about the capital is really quite enough for my purpose, so that I will add very little more. Through the whole breadth of it there is only one statement that I call rash, and it is this one: I think it was a rash thing of Mr. James to say, "I think if the Bill was passed conditionally on £8,000,000 being *bonâ fide* subscribed in six months the money would be forthcoming." I will tell you why he was rash—not that I think under ordinary circumstances of the money market it was not perfectly true. But we do not know what may happen in any particular period of six months; for instance, circumstances over which we have no control—the ambition of France, the restlessness of Russia, and one or two other matters of doubt and danger in the political world—might, between this and six months hence, bring about, if not a European conflict, that kind of rumour and fear of a European conflict which was prevalent in the country just before the Treaty of Berlin, when the Indian troops were brought to Malta and the £6,000,000 of money voted by Parliament, and the English fleet sent to the Bosphorus. It is clear if anything of that kind were to transpire in the course of the next six months it would be difficult for this, or any other enterprise, to get capital. Therefore Mr. James was wrong in

suggesting that he was quite sure the capital would be raised in any particular six months. But I will wind up what I have got to say about the capital with this: So sure are we that we are right, so completely do we believe what these men have said, we ourselves, indeed, being some of them, that you shall do this if you like. If you give us this Bill, in order to show that there is no danger upon the subject of capital, you shall put a clause in that we shall not turn a sod until £5,000,000 of money has been subscribed. I do not mean that the £5,000,000 shall be paid up; it is no use paying up £5,000,000 until you want it. Subscribe and "raise" mean two different things.

Mr. POPE: Do you mean by a contractor?

Mr. PEMBER: No! I mean a clause to that effect, and I mean no reservation about it that the Company shall not turn a sod till £5,000,000 of money has been subscribed. Now after that I think nobody need say we fear the capital question. If you did that you would do something never done before, and considering we are about as substantial a caste of promoters as ever brought forward a measure to Parliament, I should say that provision would not only be unheard of, but needless; and I should say that it was an undeserved slight upon the abilities and intentions of the promoters, but I simply throw it out, as a proof of the complete confidence that the promoters have in the soundness of the undertaking financially, and their own ability, earnestness, and intention to carry it out, and so I leave the question of capital.

CHAPTER XVI.

WATER; FLOODS.

Now just a question or two upon the water question. I take these little points because I do not like to leave any little matter behind me unfilled up, though I agree with my learned friend, Mr. Littler, it is not likely you will throw out the case upon the question of water, just as my learned friend, Mr. Pope, candidly said there is not much upon the question of masts. The water question divides itself into two —quantity and quality. Now as to quantity, it seems to be practically uncontested. Mr. Barham Foster (Sir Humphrey de Trafford's engineer), admitted point blank that there is plenty of water.

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As to floods, our cure of the floods is undoubted, and admitted on all hands. I say, therefore, that both in the improvement which we shall undoubtedly make in the water and in the floods, two great indirect benefits will be conferred by us upon this part of Lancashire, Mr. Foster says, "I did not go into the calculation of the water because I never disputed that there was ample water."

CHAPTER XVII.

PAST LEGISLATION—SWING BRIDGES.

Now there are one or two points which I might venture to call attention to in my learned friend's speeches. There is just one in the speech of my learned friend, Mr. Pope. Mr. Pope dwelt some little time upon the statutes by which, as I said in opening, and which I read to you fairly enough, Parliament might be said to have safeguarded this measure. Mr. Pope pointed out with great care what the statutes were, that they were to submit to a swing bridge at a particular place, in case the Mersey and Irwell Company, or anybody representing them, came to improve the navigation up to Manchester. That is true of all the Acts except one. It is not true of the Grand Junction Act, which is now the London and North Western Act, which refers to the first place we cross; there they are bound to take the swing bridge at any place, not merely a place where they are, and at the bidding of all comers. The bridges in that case, as indeed in all other cases, are to be made at the company's expense.

Mr. POPE: No; in the case of the Grand Junction, it is to be made at the expense of those proposing the bridge; that is the distinction between that and Warrington.

Mr. PEMBER: I did not know that; you quoted the Grand Junction Act before I came into the room—then that is not so. I thought the question of the expense of the line ran through them all alike; the difference is this: They are to submit to the bridge at any place, and at the bidding of all people, but it is to be done at the expense of anybody asking them to do it, but I have never put the question of swing bridges as high as my learned friend, Mr. Pope, seems to think I put it. I never said Parliament looked forward to this scheme, coming in the hands in which it comes, going in the direction in which it goes, and saying you shall put a swing bridge at any point where the scheme shall happen to cross you. What I am entitled to say now is, I am the Mersey and Irwell, I am the Bridgewater Canal, I, who speak at this moment, represent those if the Bill passes, and we are arguing upon that hypothesis. I, who argue, am the representative of the Mersey and Irwell, and therefore that whatever the Mersey and Irwell were entitled to ask you, I am entitled to ask you; but I do not put it that the Mersey and Irwell are entitled to ask exactly at the spot where we are now crossing their river for the purpose of improving the navigation between Runcorn and Manchester. I have never put it that we are entitled at that point to demand a swing bridge. What I put is this: All the then railways are at least under this condition. Parliament has given you your lines on condition that you must, to a certain extent named in your statute, consent to a swing bridge if the Mersey and Irwell Navigation is improved. I pass by the Grand Junction Bridge Act, which says that it must be done at any point, but it is enough for

my argument that the particular position at which we cross the existing stream was the position in which they could be turned into the swing bridge. Now I say that was the condition. If therefore, I, representing the Mersey and Irwell, or the Mersey and Irwell antecedent to my purchase, had come and said, tortuous as it is, we are going to improve the Mersey and Irwell as well as we can, but we shall always cross you at the same point at which it crosses you now, therefore submit to a swing bridge, you would have had to do it, and what I say is, accepting my learned friend, Mr. Pope's dictum, that it was all very well in 1850 odd, or in 1860 odd, but Parliament would be sure not to make you fulfil it to the letter now. I say, I too come and forestall Parliament, saying we will not have the bond, and nothing but the bond fulfilled, and I offer you something far less than I might have asked you for. I might have said, Put me a swing bridge, and you could not have helped it—and if I had been the Mersey and Irwell, and had been doing what I am going to do within the limits of my existing powers, so that I need not have come to Parliament for it, there would have been no power in life short of a fresh statute, to prevent my forcing your putting a swing bridge. What I say to the railway companies is this—the penalising condition under which you were put when you got your Act is not exacted by me—instead of making you put the swing bridge where you are bound to put it, I will give you somewhat severer gradients lower than a fixed bridge. That is not exacting from you one-tenth of the conditions upon which Parliament passed their Bill—they are perfectly fair—and then I have put in a clause to the effect that the expense of the deviations shall be matter of arbitration.

Now, let us see how the thing stands. An arbitrator shall say exactly how much of this expense is to be borne by us, and how much by them—he will look at the Act of Parliament—if he finds in an Act of Parliament that they are to do the whole thing at their expense, he will take it into consideration—if he finds they are put to any serious expense by me, he will say, Now I will consider that too—I will consider all the *pros* and *cons*—I will look into the whole thing, and whatever is right and fair I will do—he may make me pay the whole expense of the deviation—he may make the railway companies pay the whole expense of the deviation, or he may divide the expense between us in such proportions as he thinks fit. I do not think that at the present moment any Committee of Parliament would be in a position to say who should bear the expense wholly or in part—that is a thing which ought to be left to the Arbitrator as we leave it.

There is one other point in connection with these statutes where my learned friend, Mr. Pope, misunderstood them. My learned friend, Mr. Pope, was under the impression that all that Parliament was contemplating when it put these enactments in the Statute Book, namely, to submit to swing bridges at these particular points, was a barge canal. Now, to begin with, I cannot see what a swing bridge would be wanted for for a barge canal. There are no barges—even those that have masts

that have not come under conditions in which they could lower them. It was a barge canal as it stood when the bridges were fixed, therefore it is absurd to say that it was merely a barge canal which Parliament was contemplating. And there are one or two ways in which that is shown. My learned friend, Mr. Pope, thinks the towing paths show it was a barge canal. But in 1851 the waterway was to be 40 feet wide. What on earth did they want 40 feet wide for for a barge canal; two years after that it was made two feet wider, and in 1865, though at the point where they crossed the waterway would be narrowed to 42 feet, Parliament said the width shall be 60 feet, as though they said I know I have created a gut to a certain point which is 40 feet. I agree that that is a gut through which big vessels can pass at all times, but I will have the waterway just here 60 feet. What could be the meaning of having 60 feet of waterway for a barge canal? And remember that in 1851 there was not a single ship having so broad a beam as 40 feet. I do not believe there was a ship existing outside Her Majesty's navy that could not have gone up that canal 40 feet wide. There might have been one or two, the "Great Britain," and one or two ships of that sort, or the "Great Eastern" might have been in existence at the moment, but the enormous percentage of the sea-going ships of the world could have gone through a canal 40 feet wide, and *a fortiori* through one 60 feet wide. But I do not want all these inferences—when I look at the 9th and 10th Victoria, chapter 261, what do I see—I see a clause having this marginal note: "If application is made for a Bill to render the Mersey navigable for *sea-going* vessels, &c. Grand Junction Company not to object to the opening of a certain swivel bridge for the passage of vessels." The enacting clause is: "And be it enacted that in case at any time hereafter any application be made to Parliament for a Bill to render the River Mersey east of Warrington Bridge navigable for *sea-going* vessels, or to make a river or canal navigable for such vessels from any part of the said River Mersey in the above direction to Manchester." Certain things shall take place, and it is called a "*ship canal*" in the same section of the Act further down. That is proof positive upon the point. So much for my learned friend, Mr. Pope.

CHAPTER XVIII.

COMPETITION WITH RAILWAYS..

But, as far as my learned friend, Mr. Littler goes, there is very little to say about him. Mr. Littler seemed to me to make one point, which he worried as a terrier worries a rat—that is, the impossibility we have in competing with the railways. He seemed to think, because the railway companies have got £260,000,000 of capital, and we have only

£10,000,000 of capital, we could not possibly compete—that the little boy could not fight with the big man. To begin with, we cannot be killed. A waterway once made is made for ever. A waterway once made must be kept open. It is not like a railway that nobody can use. It is not like a railway where, if you take the locomotives off it, and the rolling stock, and allow the permanent way to decay, nobody can take their traffic over it, because people do not carry for themselves upon railways. People are in the habit of carrying for themselves upon canals, and there would be a waterway existing along which the traffic could go. Nor can we be forced, as has been suggested, to join the railway conference. Look at our schedule of maximum rates. Even in your Grace's mind, at one time, there was a slight misapprehension upon that point. We cannot go beyond the maximum in our Bill, and our schedules are 50 per cent. below railway and Liverpool Dock prices on goods; therefore, we cannot join the railway conference. The Bridgewater Canal could, because the Acts of the Bridgewater Canal were so drawn that, as carriers upon their canal, they could charge what they liked for carrying. We cannot carry upon our canal in that way from America to Manchester for the purpose of joining the railway conference. Our canal is open to the navies of the world, and will not join the railway conference. Besides, the railway companies have no real object in killing us. £500,000 of traffic, of which my learned friends speak, is important even to the railways, and it will come off their net revenue. If they carried for nothing their working expenses would not be reduced a single sixpence, so that the £500,000 would come off their net revenue, which is an important thing, and more than that, it would all fall upon the ordinary shareholders; the preference shareholders and the debenture holders who represent such an enormous proportion, would be perfectly safe. £500,000 is not a flea-bite in the gross revenue of the railways—it is a substantial part of the net revenue which goes to pay the dividend upon the ordinary shares, and would be a very serious thing to the shareholders, and the shareholders would not stand it for a moment. But the idea is preposterous—look at the enormous benefit to the trade if they did go on, and they must go on for ever. Look at what the trade would gain—the trade would never allow the canal to be shut up—if they could get their trade carried for nothing they would keep the canal going—it would be the finest horse the trade ever rode. The argument is silly—one is obliged to meet it, but the argument is silly. My learned friend, Mr. Littler, says to your Grace, the Bill, if your lordships pass it, will receive the *imprimatur* of Parliament. What does he mean by *imprimatur* of Parliament? Does he know the meaning of the word *imprimatur?* All Bills get the *imprimatur* of Parliaments; all Bills have a declaration previous to their passing that the preamble is proved, and the preamble always says it would be a wise and a beneficial thing that such and such a measure should be passed into law, and such and such a railway made—in that sense it will have the *imprimatur* of Parliament in the sense of every Bill which has passed your Lordships' House.

Then again, my learned friend says: Look at the Hull and Barnsley—a lot of innocent people lost their money—they have not lost a shilling here—the line is not opened to-day. The true history of the Hull and Barnsley, as I was counsel for the Bill, I know, which is this: The original scheme was really a good and excellent scheme, a scheme from the coal district at Barnsley to Hull, and the cost of that with a large dock was to be four millions of money, and when they went to ask for it, Sir Edmund Beckett talked in the same way of the impossibility of raising capital as my learned friends talk of the impossibility of raising capital for this, and they persuaded the Committee of Parliament to give them what they asked—they asked for three millions in shares as a first instalment, and were offered eight millions. They got that capital, and the line is nearly made, and the dock nearly completed. Unfortunately, smitten by ambition, the Chairman of the Hull and Barnsley Company conceived the notion of an enormous extension in mileage, and the very following year he came for powers to double the length of his railway. He got the Bill, and he tried to get the capital for it. The scheme was not so sound as the antecedent scheme, and he failed to get the capital; it frightened people, and down went the shares of the Hull and Barnsley, not to the point that my learned friend, Mr. Littler, so often said of 15s. a share. If you look in the ordinary Stock Exchange Reports you find they are £4 a share at the present time. Now I will tell you another reason why the shares of the Hull and Barnsley Company are temporarily gone down—they were under the impression that by a certain manipulation of the Acts of Parliament they could pay interest upon capital during construction. They came to me, and I told them they could not do so; and what is more, I said I did not consider it was part of the duty of Counsel to advise them how to do it. They thought they were wiser than I—they thought they could, and they made a contract with their contractor by which the contractor was to pay interest upon capital during construction, he getting back the money in meal or in malt, in the price of his contract. An enemy, one of the kind of gentlemen who sow tares amongst wheat, generally supposed not to be unconnected with the Manchester, Sheffield, and Lincolnshire Company—one of the principal opponents of the Bill, put up somebody to bring an action against the directors for illegally paying interest upon capital, during construction, and he was successful. They were no longer allowed to do it—the contract was re-let, and the interest not paid. The consequence is that a great number of people who invested their money in shares, under the impression that they were going to get interest during construction, said, I do not like this, and the weak holders began to sell, and down went the price of shares. In fact, attempt after attempt has been made to injure the Hull and Barnsley—it has partly succeeded, while the railway is unopened; wait till the railway is opened and see what the traffic will be, and see what the price of the shares will go to. The cream of the traffic of the North-Eastern Railway they are going to compete for, and I believe they will get a very large amount of the cream.

There is only one word more upon my learned friend, Mr. Littler's speech. He said we shall not earn a shilling till we spend ten millions of money. That is a specimen of the rash way in which people talk. We have never disputed that our canal can be made for the £7,000,000, therefore there is no reason to suppose that we shall spend £3,000,000 more unless we spend it in buying the Bridgewater Canal; we shall not spend as much in buying the Bridgewater Canal, but when we step in the position of the Bridgewater Canal, which is one of the first things we shall do, we step into £60,000 a year net income before our canal is opened, before there can be any question whether we damage it or not. Now, all I say is this: I take it as the test of the kind of statement which is made to you as a matter of prejudice, and which is supposed to be relevant in throwing out the Bill. It is perfectly irrelevant, and I would not deal with it unless it was so inaccurate and unfair.

I have nothing to do to-morrow but to touch upon the question of the estimate, which Mr. Leader Williams has said he considers will be ample; but as long as your lordships do not express any opinion upon it, I must speak upon it. After that I shall come to the estuary, and I shall then finish everything before the moment at which your lordships usually adjourn.

(Adjourned till to-morrow at 11 o'clock.)

CONTINUATION OF REPLY OF MR. PEMBER, Q.C.

THIRD DAY.—THURSDAY, 22nd MAY, 1884.

(BEING THE 40th DAY OF THE HEARING OF THE CASE.)

CHAPTER XIX.

THE ENGINEERING ESTIMATES OF COST OF WORKS.

Mr. PEMBER: Your Grace, as I said yesterday, I have now got at all events to the last two topics of the case; the last but one being a small one about the estimate, and the last one being by no means the least important—the one about the estuary.

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[Note.—The following part of Mr. Pember's speech, comprising pages 327-345, relating solely to the differences between the estimates of the cost of the works as shown by the Promoter's Engineers and those of the opponents, is left out of this reprint as being of too minute and too technically scientific a character for general reading. The Engineers who gave detailed evidence in support of the Promoters' estimates were: Mr. James Abernethy (Past Pres. Inst. Civil Engineers); Mr. J. Brunlees (Past Pres. Inst. Civil Engineers); Mr. E. Leader Williams; Mr. A. Giles, M.P., Mr. P. J. Messent, Mr. James Deas, Mr. John Fowler (Engineers respectively of the rivers Tyne, Clyde, and Tees); Mr. L. B. Wells (Engineer river Weaver), &c. The principal witnesses who gave evidence against the Bill, so far as engineering estimates were concerned were Mr. Lyster (Engineer Mersey Dock and Harbour Board,) and Mr. F. Stevenson (Engineer London & North-Western Railway Company). In material points these two witnesses answered each other. For example, as regards the cost of dredging in the estuary, Mr. Stevenson accepts the Promoters' prices, but increases the quantities; whereas Mr. Lyster accepts the Promoters' quantities but increases the prices, &c.]

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That is the sort of contradictory evidence brought against this scheme; whether commercial evidence, whether evidence upon estimates, or whatever it is, it always breaks down by being absolutely inconsistent with

itself. All I can say is this—I do trust that against carefully calculated estimates, by competent persons in consultation, and not only competent persons, but the most competent persons in Great Britain, with everything to lose by being wrong, and everything to gain by being upon the safe side, you will not allow a certain amount of inconsequent and inconsistent criticisms to weigh with you for a moment. And so I leave the case of the estimate.

CHAPTER XX.

THE ESTUARY CASE.—THE EFFECT OF FRETS ON THE BAR.

Now, your Grace, I come, and I come, I think, with full confidence, which I trust is not misplaced, to the consideration of the estuary case, and though it is the last, it has been to me the most careful piece of labour that I have had to undertake in connection with this matter. Your Grace, if a mere expression of alarm is to be enough to cause the rejection of this scheme, I admit that my efforts are in vain—I might as well close them. There is no use arguing with a startled horse, and if Liverpool is afraid, and the fear of Liverpool is to be enough to upset all that we hope to do in the Mersey, again, I say, I may give up further effort. I might add, however, that if an expression of fear had been considered enough a generation ago to stop a great work, then the docks of Liverpool and Birkenhead would never have been constructed, for, as was admitted by the dock authorities themselves, there was just the same sort of expression of apprehension upon the part of certain persons with regard to that great work, of apprehensions which have not been verified, and which were not sufficient to stop the scheme. As Mr. Eads, the gentleman imported from the wilds of the Mississippi, said, I had plenty of persons who told me that my training walls would create a bar shortly outside their termination—he smiled and said : "Those prophecies have not been made good."—Had apprehension, fear, or even the affectation of fear been enough to stop Mr. Eads' work in the Mississipi, a a very great work, according to the description given by Mr. Eads, would never have been permitted.

Mr. Aspinall's position seems to me to be one which your lordships will hardly sympathise with. In his opening speech he defined it very clearly by asking a question upon page 117. You will find it in the Minutes of Proceedings apart from the Minutes of Evidence—he says there, "Are we bound to show more than that there is a risk and apprehension that harm may happen to the river? I apprehend that that is the outside of what your lordships will require. I venture to submit that even that exceeds what we are called upon to do. I venture to think that the whole burden of proof is upon my learned friends in dealing with a great port like

Liverpool, upon which the whole of England and the whole of the world is more or less commercially dependent, that they themselves, if they have any opposition, are bound to prove, and the whole burden of proof would be upon them to show there is no considerable risk." The first two propositions laid down by Mr. Aspinall in the way of a question I do not agree with. I think he is bound to show more than mere apprehension or mere vague risk, and I certainly venture to think that a mere expression of vague risk, and vaguer apprehension, certainly does not exceed what he is bound to show; but I do accept, in some measure, his last proposition, that the burden of proof should be upon me to a certain extent, to show that there is no considerable risk to the bar. But I think, on the other hand, I am entitled to turn back the burden of proof, and to say, I come here with a scheme which is *primâ facie* beneficial both to the river and to Manchester, and, indeed, it cannot be beneficial to Manchester without being beneficial to the river, or harmful to the river without being harmful to Manchester. I come with a scheme entirely beneficial to both, and the burden of proof does lie upon the opponents to show by facts and arguments that there is some tangible, substantial, and considerable risk. Mr. Aspinall's definition of their duty, on the other hand, would be very nearly to limit it to a mere cry of alarm. Now I will say, if he insists that the burden of proof lies upon me, that in an equal degree, and indeed, in a stronger degree, the burden of proof lies upon him to show by fact and by argument that there is a considerable risk. But the burden of proof, I say, lies all the more upon them, and is all the more incumbent upon them, because their fears, or affectation of fears, whichever it may be, run counter to all antecedent scientific theory, and counter also to all antecedent scientific experience. Their fundamental principle I insist to be subversive of all previous thought upon this undoubtedly important question. I have all the more important items, I think, of engineering literature upon this subject before me. Search the whole range of it, and I will undertake to say that you cannot find a word suggesting the three points upon which the opponents have elected to base their whole case for the estuary. First, that the frets or changes of a shifting channel are advantageous to an estuary; secondly, that they increase the tidal capacity; thirdly, that the confinement of a shifting channel within low training walls—mark, I say low training walls—would injure the scouring power of the estuary and impair its capacity for navigation, or injure the bar at its mouth. Those are the three propositions I state, and I will re-state them for clearness sake, and I say you will not find them within the whole range of engineering literature—that frets or changes in a shifting channel are advantageous to an estuary, one; that they increase its tidal capacity, two; that the confinement of a shifting channel within low training walls injures the scouring power of the estuary, and impairs its capacity for navigation, and injures the bar at its mouth, three. On the contrary, the one motive, the essential object of all such writers as those whose works I have before me, such as Calver, Thomas Stevenson, the brother of Mr. David Stevenson, whom unfortunately we could not see, Mr. Vernon Harcourt, Admiral Spratt, Mr. Scott Russell, Admiral Evans, and the rest, all whose names and works have

been cited to you, their one motive, their one essential object, is to destroy frets; to put an end to them, and to the shifts and changes; that is their one essential object, and their one method is to *train*—no exceptions are made. I have never read so much upon one subject since I left college as I have read upon this. I find no exceptions; no reservations—that is the one object, and that is the one method. I find no reservation such as Mr. Thomas Stevenson in the box made the other day; first as to estuaries in which there are bars, second as to wide estuaries: on the contrary, that qualification made by Mr. Stevenson, for the first time upon page 1148, is made expressly for this enquiry. It finds no place in any spoken or written expression of engineering thought. This is what he says: he says, "If there is a bar, and if that bar is exposed to the heavy sea, and lastly, if the river has a wide estuary, if there is a sufficient area for holding a large amount of deposit."—What? Not that you ought not to have training walls even then, but you "ought to be cautious." I look in vain through his brother's book, I look in vain through his own, for the suggested direct or indirect confirmation of that qualification of Mr. Thomas Stevenson. On the contrary, this qualification, made, as I say, for the first time, expressly for this enquiry, is made after Mr. Stevenson, upon a clever cross-examination by Mr. Michael, had agreed up to the very hilt with the true theory, stating one after another the benefits which arise from confining and training a channel, and doing it with low training walls. It is quite curious. On page 1157 Mr. Michael had cross-examined him, and pointed to his brother's book and to an article in the "Encyclopædia Britannica" enunicating with great clearness, one after another, the beneficial effects of the works there described, and my learned friend said they might be summarised as follows: "First to depress the level of the low-water line. Secondly to increase the range of tide. Thirdly to accelerate the propagation of the tide through the channel of the river. Fourthly to prolong the duration of the tide in the river. Fifthly to equalise the velocity of the tidal currents removing rapids and bores. Sixthly to add to the beneficial scouring power of the river. Seventhly to increase the navigable depth"—one after another—are they really true, well ascertained, and well agreed benefits, which accrue from the training of the channel, and he accepts them all. Then you get this for the first time in the history of engineering. You must be "cautious" how you do it if you have a wide estuary, or an estuary which is terminated by a bar. Where, I say again, in his own or in the books of others will he find such a statement as that? If it were existing, ought he not to have found it? Are estuaries usually narrow? Are bars rare things? Would the co-existence of two such incidents be a factor of consideration, that is to say, would the co-existence of a wide estuary and a bar be a factor of consideration likely to escape the notice of such men as have thought and written upon this subject? Surely not. They knew of no such qualification; if they had known it they would have stated it, not only so—if they had known it it would have excluded almost every instance

of a tidal river, to which their works and the chapters in their works dealing with tidal rivers and the improvement of them by low training walls, the principle and method were alike applicable. For what estuary, I may ask, is not wide, and what estuary, I might almost ask, has not got a bar? But the bars are common things, and the absence of bars, as I can show by Mr. Stevenson's own book upon harbours, is the exception —they result from the action of the sea, and the cross currents of the sea at the mouth of the estuary, and are almost invariable unless the estuary is of an enormous extent. Bars, therefore, are, instead of the exception, the rule; and therefore, for these gentlemen one and all to have written on the treatment of estuaries and to have said, Our object is to fix a channel, and the one method is to train it—for them to have written in those general terms, having a reservation in their own minds as to the exception of a wide estuary, and the exception of a bar, would simply have been to have in their own minds a reservation which would have covered all the ground they were travelling over. It would have amounted to a general proposition in conflict with the very bases of all theory and all practice. To make it worth anything it must be made special to this case; that is to say, it must be *this* wide estuary and *this* bar which must differ in kind—not merely in degree but in kind—from all the other wide estuaries and from all other bars. In fact, you must have something which justifies Mr. Thomas Stevenson's original acceptation of Mr. Leader Williams' principles and designs in laying out this great work, which justifies his conditional approval of it by saying that it depended upon the peculiar characteristics of the Mersey. Where are the peculiar characteristics of the Mersey making it differ in kind not in degree, but in kind from all other broad estuaries terminated by other bars? Not one tittle of proof has ever been advanced, nor indeed could any tittle of proof be advanced, for there is no such thing. I fear to imitate Mr. Eads when he wished to impress upon your lordships with so much unction that there was not a grain of sand in this vast estuary which was not amenable to natural laws. Heaven forgive me for stating such a platitude, or affecting to instruct your lordships upon such things as must be patent to any child of five years old, but I must say as to there being no difference in kind in a wide estuary like the Mersey, that the laws of Nature are few and simple, that she works in this direction and that direction from a very few types. It is the unity of Nature, as many philosophers have said, that makes her grandeur, and her operations, larger perhaps in their exposition, are the same in kind on the Mersey as they are upon the Tees, or the Tyne, or the Clyde.

That is our position, and it is impregnable; the contrary is theirs, and it is baseless. The Tees, the Tyne, the Ribble, the Mississippi, have all bars, and they have all been trained, because they, like the Mersey, are amenable to the great, few, simple, general laws that govern all estuaries alike. The consensus hitherto of all engineers, of all commercial communities, who have employed engineers, I was going to say all sane men—but I forgot the attitude of the Mersey Board—is that to

leave a tidal river in a sandy estuary untreated by the only known method of treatment, training it, is *pro tanto*, to decline to utilise it, and probably, though not certainly, to leave it to ultimate decay. But, at least, it is *pro tanto* to decline to accept it for utilisation. Now, this consensus of all persons, either scientifically or commercially concerned with estuaries, has only been broken in this one case by the act of the Mersey Board. Secure in a monopoly, secure in the invincible attractions of Liverpool, as things are at present, for shipping, in consequence of its contiguity to the great consuming and producing districts of this country, the Mersey Board have been apathetic up to this time, and have left their estuary untouched. Startled now by the awakening of Manchester, they have become just; so that their apathy, so to speak, and their jealousy, both appeal to you; their apathy, if I may be excused the metaphor, yawns, "Leave the Mersey alone it will do for us;" and their jealousy almost screams "For goodness sake do not let it be improved so as to make it good enough for them." Yet they have had something like a warning. It is not disputed that within the memory of man—and living men—there have been 17 feet of water over the bar at low water; there are only 9 feet now; there have been only 7 feet. I say that is a warning. In 20 years the cubical capacity of their estuary has fallen 18,000,000 cubic yards.

Now seriously, in detail, I should like to examine their position. At 1069 it is stated very succinctly by Captain Graham Hills—this is to show you how it is stated. He is under examination by my learned friend, Mr. Bidder. In answer to question 15760 he states his position very succinctly. I made him do it, because it is useful not only to have your own text, but the text upon which your opponent preaches. "Do you, from your observation and experience in the estuary, attach importance to that fluctuation of the channel and its shifting from side to side?—The fluctuation of the channel is the only thing which disturbs the deposit which otherwise would become permanent." And then he says, "I associate the recovery of the bar with the action of frets in increasing tidal capacity." That is Captain Graham Hills' distinct position. There are practically two statements in different terms, of the same proposition, but the latter form is the most precise, that he associates the recovery of the bar with the action of frets in increasing tidal capacity, and that is the one we shall prefer to deal with, and in dealing with one I shall deal with both.

Now, I have already said that that position is in glaring contradiction to the whole literature of tidal waters, and it is interesting to make up my mind as to who invented it, and I cannot help thinking it was the ingenious gentleman from the banks of the Mississippi. I can fancy the process. I can fancy his being called in this year after they failed to persuade the House of Commons last year that there was anything in the position they took up. I can fancy his going over that evidence with them, and I can imagine him saying—and saying with some sense: "You must lay hold, gentlemen, of the essential difference between what is proposed by their scheme and what is going on now. You must

defend frets; the essence of their scheme is that they are going to stop frets; frets are the essential feature of the present order of things. You stick to the frets."

Captain GRAHAM HILLS: I did mention it last year most distinctly.

Mr. PEMBER: Captain Graham Hills has no right to take part in these proceedings. You, Mr. Aspinall, have a perfect right. I am not in the habit of relying on my own statements—perhaps I rely a little too much upon evidence. I say again, with perfect fearlessness, that not a soul last year did so—not a soul last year said that frets recovered the bar—not a soul last year said that the fluctuation of the channel was the only thing disturbing the deposit which would otherwise become permanent. Not a soul last year said that frets increase the tidal capacity. The idea is reserved for this gentleman from the far west of America. It is curious that no man last year in evidence, or previous to last year, in literature, had ever said the same thing. But I go further; I say in spite of the interjection of Captain Graham Hills, which I trust he will not repeat, I say, in spite of the fancied power of contradiction expressed by my learned friend, Mr. Aspinall, that that theory is absolutely contradicted by Captain Graham Hills' own evidence last year. I say again, that the statement that the fret does recover the bar, does increase the tidal capacity, and that shifting is the only thing that prevents deposit from becoming permanent and the estuary silting up, is refuted by his own evidence of this year, and by that of other witnesses who followed him. Now that is a tolerably strong position to take up, and I will defend it. Now, as to his evidence of last year, it is not so pleasant to make use of it, and to do so wears the aspect of a charge which I am very far from desiring to make, believe me; but it is necessary to insist upon that, because it is necessary to insist upon the intellectual inconsistency of the chief witness—which Captain Graham Hills undoubtedly has been—if his mind were one thing in 1883, and is another thing in 1884, of what value are the deductions of Captain Graham Hills? Of what value are the deductions of a mind which is capable, within twelve months, of such violent oscillation—how can you be persuaded to ruin a grand scheme like this upon the suggestion that frets are essential to the bar, by a gentleman who a year ago insisted—if he did insist—that they injured his bar? I read his evidence of 1883 to him a few weeks ago, and you will find there all the extracts that I read to him on pages 1107 to 1110. The first question is No. 16290. He says: "The shoaling of the Queen Channel Bar and the accumulation of the Shoal Lump in Crosby Channel have taken place simultaneously with the disturbances of the river deposits which have already been described." So far we only get to the word "simultaneously." I agree you have not yet got cause and effect, but, as I pointed out to him, it is a very strong indication of cause and effect that the two things should go on simultaneously. "The shoaling of the Queen Channel Bar and the accumulation of the Shoal Lump in Crosby Channel have taken place simultaneously with the disturbances of the river deposits already described. By such dis-

turbances the current of the tide is charged with silt, and with the alternation of the flood and ebb the deposits of the outer bay and the inner estuary interchange with each other, being displaced and re-deposited under laws and conditions of infinite complexity. The continuous changes found in the condition of the navigable channels are necessarily involved in such interchanges." All that looks uncommonly like cause and effect, but I do not say that it is said so in statements; though if I had only that to rely upon I might confidently say that the indication that cause and effect were in the mind of the man who penned it, is almost irresistible. "You do not mean by that to suggest that the shoaling up of the bar was caused by that fret or any other?—What I meant is very plainly expressed. I do not think I did mean that, but I was going to say it was some years since it was written"—so that he is not very strong that he did not mean that—"and I should like to know what the context is, but what you have read clearly implies that certain disturbances caused matter to be interchanged going out and coming in—that is my opinion at the present moment that it is so." I say even that goes a very long way in the contention, but I have got it far, far clearer than that. "(Q.) In other words you say you do not mean to suggest that the shoaling up of the bar so far as that passage went was caused by the fret. Now let us see what you said last year. At page 819, Question 9786, you were asked, 'Will you describe in your own way, if you please, the changes in the depth of the bar at the different periods, and also'"—mark what—"'connect those changes and alterations with the condition of the river?'" What is the meaning of connection, if it does not mean connection as cause and effect? "'It was mentioned by Mr. Leader Williams under a misapprehension that in 1872 there was more water on the bar than there is at present, and that he considered that at the present time the water was less; the converse is the case.'" He puts Mr. Leader Williams right, and is anxious to do it. "'1872 was the time when we had the least water within my experience of 27 years. The water at that time was seven feet on the bar, and that shoaling of the water there was coincident with a very large change which took place in the upper part of the river during a period of two years and a quarter when I watched the effects of it.'" Does not "coincident" mean cause and effect? But I have got him far clearer further on. "'A fret came down the river and 5,800,000 cubic yards of soil were removed from this spot.'" What can he mean, if he is talking of shoaling of the bar as being coincident with the operation going on in the upper estuary, and further says it was bringing 5,800,000 cubic yards from the spot in which it took place? Would not anybody have supposed—as we supposed in 1883—that a portion of that 5,800,000 cubic yards, or all of it, was put upon the bar? Then he describes it. He says, "'The channel as it came across cut in as much as 35 feet below the level of the top of the bank displacing in that way large quantities of material which being so disturbed were carried down the river and deposited elsewhere.'" As we should say, I cannot say exactly where. I do not pledge myself and point on to the bar. "'But the coincidence was that with that change there the bar shoaled up from 11 to 7 feet.'"

Mr. ASPINALL: That is the question?

Mr. PEMBER: It is the question; and although I ask him the question, the question being, "Was not that your evidence last year," and though he says "Yes" to the question, take the evidence of last year out of the question, it is his assertion in 1883. Then he is asked "Yes or no distinctly do you mean to say that you did not intend to suggest by that answer to that question that the shoaling of the bar was caused by the fret?" He is quite positive, for he answers, "I not only did not intend but did not suggest it." He did not want to leave the question open. We cannot get inside a man's mind at present, though I will see whether I cannot get into his in the long run. But whether he did not suggest it in the sense that any sane man who listened to him would not think it was what he meant was another matter. Then I said, "Now we will go on, that is your answer at present, it is your answer still. The next question is this 'What inference do you draw, or can you draw any inference from that?—The inference from that is simply this that there is an intimate relation between the upper river and the outer estuary and between the changes which occur in the upper river and in the outer estuary.'" Now, pause upon these words. What was the change that occurred in the upper river? The change was a shifting of the channel and a bringing down of 5,800,000 cubic yards of stuff. What was the change in the outer river? The change in the outer river was the shoaling of the bar from 11 feet to 7 feet; if those two changes in the upper and outer river were, according to him, in intimate relation what could those intimate relations be but cause and effect? But that is not all. Then he says, "I did not say the one is the cause of the other nor did I intend to say so. You have put another question to me now upon the following questions and I want to answer that question and what I have stated there is what I believe at the present time—that there is an intimate relation between the inner and the outer estuaries and that you cannot make a change in the one without its affecting the other." True, you could not in fact, according to him, in 1883, send down 5,800,000 cubic yards from the upper estuary, but what you made a change in the bar; and what was the change in the bar? Shoaling. But that is not all. I go further on. I put to him a remark of the Chairman in 1883, which is embodied in Question 16295. The Chairman then interposes, and says, "I understand you to say that the shoaling of the bar followed upon a fret in the upper reaches of the river." Now I admit that the Chairman in the House of Commons used the phrase "that followed upon," and "followed upon" may be interpreted to mean "came afterwards." But you and I know well that when we talk of so and so and so following on so and so, we mean not following only in the matter of time, but in the matter of causation. His answer is, "Yes," Then he said, "I should say that that answer was not correct at the moment, because I had already said it was coincident." I then discuss the meaning of "followed;" followed upon what? But I need not go into that. But further on he is asked, "The fret is the turning over of a large

quantity of material over more than one-third of the width of the estuary?—Yes. (Q.) Then how can the fret itself be the cause of itself?—The turning over of the quantity of matter was the cause of the fret. (Q.) It is the fret. I am still unconvinced, I am sorry to say, as to what you said last year. Now turn to page 849 of the evidence of last year, Question 10010: 'How do you show the Committee that the maintenance of the estuary in its present condition is kept by these 'shifting channels?'" —Now mark this: "In that particular case the maintenance of the estuary in its present condition is kept by these channels?—In that particular case the maintenance of the estuary in its present position has enabled the bar to free itself of the encumbrance"—that is shoaling from 11 to 7 feet—"which was caused by that change in the upper river." That is the first time we get the word "caused." We have had "coincident" "followed upon" and "intimate relation," and now for the first time, as clear as words can put it, we get the fact that the encumbrance on the bar was *caused* by the change in the upper river, and the change in the upper river was the great fret which rolled down 5,800,000 yards. What can he say? "The fret in the upper river was a part of the change I referred to." But I have not done with him yet. Turn to the following page, 1109, "I will now read at page 857 Question and Answer 10107 'That is what you have told me" (says Mr. Michael) "in other words you say the beneficial action which took place was attributable to so many millions of silt that was brought down in the fret, and that led to a diminution of water over the bar." Mr. Michael had the pleasure of cross-examining Captain Graham Hills in the House of Commons last year. "I say" (said he) "the great stir which occurred in the bed of the river and which occurred at a given period had at first the effect of causing the shoaling up upon the bar." Now I think there is one neat little bit more.

Mr. ASPINALL: You ought to read it—you stopped without reading the answer, and you were asked at that time to finish it. Read the next.

Mr. PEMBER: You are quite right, I ought to have read it particularly because I want it—it follows on. Mr. Aspinall's criticism is right, and the same criticism was made against me when I examined Captain Graham Hills. I have only to read the complete answer to that question and the next one, "I say the great stir which occurred in the bed of the river and which occurred at a given period had at first the effect of causing the shoaling up upon the bar, and eventually the effect of increasing the tidal capacity of the river at the point from which that large quantity of matter was removed. Those are two things quite distinct, and first the great stir which is identical with the fret?—No, there is a great deal more than the fret. (Q.) But it involves the fret?—Yes," and so on. Mr. Aspinall is quite right, and I want it, but not for the purpose Mr. Aspinall imagines. Here you have got two distinct declarations, one without qualification that the fret and change in the upper river caused an encumbrance upon the bar, and secondly, the admission that the great stir which was the great fret, had the effect,

first of raising and shoaling up upon the bar; and afterwards what does he say? He does not say the fret eventually increased the general capacity of the river, but only that it increased the tidal capacity of the river at the point from which the large quantity of matter was removed —that is perfectly obvious. Then I say, but it involves the fret?—Yes—you are dwelling now upon what has been called the great fret. If you look at that report of mine of 1871 you will see that there I speak of two frets then in progress. (Q.) Excuse me for saying that I was not examining you then, but Mr. Michael; what Mr. Michael says is this; he does not use the word "great" though you do; he says: "In other words you say the beneficial action which took place was attributable to so many millions of silt that was brought down in the fret, and that led to a diminution of water over the bar?—I say the great stir which occurred in the bed of the river. That involved the fret?—Yes, or a part of it. (Q.) And which occurred at a given period had at first the effect of causing the shoaling up on a bar?—Yes. (Q.) Then it did cause the shoaling up upon the bar?—Yes." There is an admission this year that it did. That is not quite all—upon page 1110 he says in answer to 16314: "I have no doubt in my own mind that the reason why the bar shoaled at that particular time was that there was a large movement outward of sand and other matter from the bed of the river. That was your answer there?—You put it as a question to me. I have no objection to your making the statement as it stands. 'There was a large movement out of the bed of the river." Good heavens, that is again his evidence last year: "I have no doubt in my own mind that the reason why the bar shoaled at that particular time was that there was a large movement outward of sand and other matter from the bed of the river." Now that movement of sand from the bed of the river is the result of fret and therefore the fret, which was the cause of that, was the sole cause of the shoaling up the bar. Expound as he likes, struggle as he may, you are perfectly able to judge, did he or did he not say last year that frets caused the shoaling up of the bar? If he did, he has made a very sudden change of mind now. I do not want to pun upon him, but he has created a great mental fret this year himself—there cannot be a doubt about it.

Now I would say, are you going to stop a scheme of this magnitude and promise upon hypotheses either originating in, or adopted by, a mind that can so oscillate as Captain Graham Hills' can? I do not rely only on that—let us see this year whether or not he can support his own new theory himself, or whether it is supported for him by the others who come and help to support it. Now the theory I cannot too often repeat is first that frets recover the bar—re-cover the bar must mean not simply to undo some damage that they have done themselves, but if the bar gets shoaled up from some cause or other, they put it right; secondly, to increase the tidal capacity—and here let me notice that in the remainder of his answer which my learned friend, Mr. Aspinall, quite properly made me read, because there is no doubt, even if it is apparently irrelevant to one's own mind, one has no

right to read a part of an answer—he has not said that the fret increases the total tidal capacity of the river, but only that it increased it at that one particular point, which is a truism. If I take a certain amount of sovereigns out of my own pocket and transfer them to the pocket of my son, it is obvious that I have increased the monetary capacity of my pocket, though I have taken the sovereigns out, and I have diminished the monetary capacity of his, though I have put some sovereigns in. As to the capacity of the bar, cause or not cause, the great fret was one which he thought so remarkable that he thought it worthy of special mention, that he says upon page 1110, Question 16313: "It was a fret so remarkable that I thought it worthy of special observation at the time." That he had said last year, and he repeats it this year. Now, would you kindly notice, your Grace, we are upon the question of whether a fret can recover the bar, and whether this fret is a specimen of the recovery of a bar, and it is a good specimen, because it is a remarkable fret—it was going on during the period during which the bar increased and shoaled up. I must ask you to turn to page 1106, where he tells me when the fret began, as he subsequently tells me when the fret ended. I asked him—"When should you think it began?—I cannot make a guess; somewhere between 1861 and 1869; looking at the progress afterwards, I should think it must have begun about the middle of the interval, but it is a mere guess." I do not want to pin him to a year or two, but in all human probability it was in 1865, and I am ready to take it as 1865. But even if it began in 1861 it would do. I want to call your attention to the fact that from 1861 downwards for a considerable period, down to 1872 or 1873, the bar constantly deteriorated. If you turn to page 1083 you will find that the fret terminated in 1873—it is in answer to Question 15909. At 15908 Captain Hills is asked: "When was the fret?—The first we knew of it, the first measurement we got of it was in 1869." And he subsequently says it probably began in 1865. "Was the effect of it prolonged through several years?—Yes it went on to 1873." I say that the very period during which this fret was going on was the period during which the bar shoaled up. Now, if I show you that from his own figures and his own statements, surely I show you that so far from the fret recovering the bar, if there is any inference at all, it is that the fret damages the bar, damages it seriously. Will your Grace turn for this purpose to page 1116. On page 1116, in answer to Question 16386, he gives his own minimum depths—the worst depths on the bar. He will not let me take Admiral Evans's best depths, he says you ought not to do that, you ought to take the worst depths. That is true; as I said upon a previous occasion, the efficiency of a company of infantry is the efficiency of the worst man in it; the efficiency of the bar may be taken to be that of the worst spot in it, so to speak. He gives his own depths. In 1865 the worst depth is 10 feet, the same for 1866, 1867, and 1868; in 1869, when you see the fret had been in operation four or five years, according to him it has gone down to 8. It goes up a little in 1871; in 1872 it fell to 8, and in 1873 to 7, when the operation of the fret was completed—so that during that period, even begin-

ning with 1865, or I do not care if I begin with 1861, the bar silted up during this very lively fret no less than 3 feet. Those are his own areas of the bar, and tell the same tale. Upon page 1084 he gives the sectional areas of the bar. If you recollect, that was the occasion upon which he produced a variety of cross sections, and that is the point at which he gives his complete evidence upon the subject. He gives us the areas upon those cross sections from 1868 down to 1883, and I will ask you to notice this :—Those sections are 624 for 1868 ; 580 for 1869 ; 544 for 1870 ; 691 for 1871 ; 518 for 1872 ; and 560 for 1873, so that, having been as high as 624 in 1868, with one or two intermediate changes, the whole condition of the bar down to 1873 was far worse with the exception of one year, 1871, which must have been from some extraneous and peculiar cause, as it differs from all the others ; but, with that exception, the condition of the bar during the whole of the periods which he gives, and during which that fret had been going on, was bad compared to what it is in the period from 1877 to 1883, when it has risen from 610 in 1874, 560 in 1873, up to 1,000 in 1883. You see it was bad all the time the fret was going on, and it improved and improved most materially during the last five or six years, which are admitted upon all hands to be a period of comparative quiescence when the main channel has not materially altered.

Now I say that here are the figures given by a gentleman who says frets re-cover the bar, and the figures show that so far from the fret re-covering the bar, the coincidence of the fret is the coincidence of the shoaling up of the bar, and the shoaling up of the bar in depth, and the diminution of the bar in sectional area, and, on the other hand, that the period which is noted for its quiescence and for its tolerable freedom from fret, is coincident with the very important rise of the sectional area of the bar, and I may add improvements in its depth, because since 1873 it has gone up from seven feet to nine feet. So far, then, as that coincidence goes, so far as any proof adduced by him goes, that frets recover the bar, they are turned without the slightest effort of ingenuity by his own way of dealing with them into an indication, if it is an indication, that the operation of frets, so far from being beneficial, is baneful to bars.

But we need not confine ourselves to one fret. Look at what I have called from time to time Admiral Spratt's skein of serpents, in other words the bundle of channels between Garston and Runcorn, any time between 1825 and 1882. See if your lordships can pick them out of the changes of the channel during the period from 1861 to 1863—how many frets that have caused those changes of channel must there have been in that interval ? The frets having been so plentiful during the interval of these years what were changes in the bar ? Turn to page 115—you see you have had two channels to deal with in that interval, the Victoria Channel and the Queen's Channel. Owing to the changes at the mouth of the Mersey from whatever cause arising, at one time the Victoria Channel has been the main channel, at other times the Queen's Channel has been the main channel. Captain Graham Hills had

something to say about the Victoria Channel not being usable in the dark. But that has nothing to do with the point we are upon now. The depths are the thing. I am now taking the epoch of frets as shown by the charts of Admiral Spratt, between 1861 and 1873; here are the frets —what were the changes upon the bar during that era or epoch, whichever I ought to call it. The Victoria Channel had in 1861, 17 feet; in 1862, 17 feet; in 1863, 16 feet; in 1864, 15 feet; in 1865, 15 feet —slowly diminishing up to 1865—the epoch at which, when put to it, Captain Graham Hills thinks he may put the commencement of the great fret—the following year after the commencement, what is the drop? From 15 feet to 12 feet, slowly diminishing up to 1865, rapidly after the first year in which he thinks the great fret began. From that time the Queen's Channel becomes the channel and the best available channel; and what are the depths of the Queen's Channel? I have given you, with the exception of one year, his own depths as taken in 1868, but he goes on in 1867, when the Queen's Channel takes up the wondrous tale: 1867, 10 feet; in 1869, 8 feet; in 1870, 8 feet; in 1871, 9 feet; in 1872, 8 feet; and in 1873, 7 feet—and there is one last depth, which I gave awhile ago. What happened between 1873 and 1878 we do not know, but we do know that from that time onward the main channel has been fairly stationary. I do not say the river has not wandered, and that there have not been certain local frets and changes, and certain displacements of the stuff in the estuary, but the epoch has mainly been, so far as the channel is concerned, an epoch of stationariness, if I may coin a word, and the bar has gone down again. It is now (upon page 1117), according to himself, from 9 feet minimum to 11 feet maximum, in 1871, but I am content with the 9 feet minimum, showing, therefore, an improvement of two feet.

Now, that is all the evidence you have of the effect of frets upon the bar, if any, of which I must say personally I avow a prudent disbelief. What does it show, if anything, to sum it up once more? It shows that an epoch of great activity in the matter of frets was coincident with an epoch of considerable decrease upon the part of the bar. It shows that an epoch of comparative quietness upon the part of the river was coincident with an epoch of partial recovery of the bar. It shows that Captain Graham Hills, in associating frets and the bar at all as matters of intimate relation, in 1883 might have been right, when he said they cause the shoaling up of the bar; in 1884, when he says they cure it, he must be wrong.

CHAPTER XXI.

THE ESTUARY CASE. THE EFFECT OF FRETS IN INCREASING OR DECREASING TIDAL CAPACITY.

Now, let us test his theory by the view which I suppose I may call its corollary; namely, that frets increase tidal capacity. I agree that if they do not increase tidal capacity they could not affect the bar. I will

admit that. It is perfectly obvious that if a change involving a large displacement of sand and a huge body of sand, wherever it took place, were accompanied by a force sufficient to sweep the sand at once out to sea, then of course there would be an increase of the general total capacity of the estuary, there cannot be a doubt about it; in that case the operation would be equivalent or analogous, whichever term you prefer, to the making of my channel—the contents of which I do take up and carry out and transport to sea; if the fret which changed the channel could do what I do, have force enough to take the stuff out to sea, then no doubt there would be an increase in tidal capacity; then the result of the fret would not be transposition, which everybody, himself included, up to this year called it, but transportation, but that condition is wanting, and no one sees this more clearly than Captain Graham Hills. Up to this year he had never claimed for frets that they increased the tidal capacity. Up to this time he, like everybody else, has described their results as transposition, as interchange. Let us take his report of 1871, which I quote to him on page 1113, where you see distinctly he points to the result of the fret as interchange. It is in answer to 16357. The subject of the report is Pluckington Bank. He says, "The causes of such changes are often remote in time and are due to operations originated in distant parts of the river bed not difficult to be traced in broad outline." The causes which changed Pluckington Bank. That would be transposition. If the change in the upper river caused change in Pluckington Bank, it would mean obviously that it brought down the silt which increased it. It continues: "As regards the present time it will be seen on reference to my report of 1873 on the general survey of the river made in 1871 and continued as regards certain changes then in progress in the upper estuary to September, 1873, that a description is there given of an operation observed in progress during $2\frac{1}{4}$ years when a bank containing 5,800,000 cubic yards was displaced from the neighbourhood of Stanlow Point and Ellesmere Port whereby the main ebb stream was diverted from its previous course and directed towards the banks which then bounded the west side of the narrow Garston channel. Thus directed it gradually swept away those banks including the Devil's Bank creating a broad deep channel along the Garston shore past Dingle point" (doing what?) "filling up with deposit the middle part of the river where for several years previously the channel which carried the principal of the ebb stream of the upper river had existed."

Now look at his report of 1873, where he constantly talks of interchange as being the result of these changes in the condition of the upper channel. I have here the manuscript of his report of 1873: "In the second compartment," he says, "12 sections appear increased and 10 decreased nearly making a balance. This compartment comprises Pluckington Bank. A series of annual surveys submitted to the Board for several years past has indicated that the great changes annually noticed in the surface of this bank are caused by equal interchanges of deposit, and by the view now given of the whole width and

length of this compartment, it is shown that here the capacity of the tideway is practically the same as it was 10 years before." Then he says: "The third compartment comprising the great expanse from Dingle Point compares unfavourably with its previous condition, as the majority of its sections stand on the side of decrease. The proportion of the decrease, as illustrated in Diagram A, does not appear considerable, but in the sections the mass of deposit transposed is in many cases shown to be very great. The nature of these transpositions is exemplified by two cases occurring at the time of the survey, and which still continue in progress," and so on. Then again: "In July, 1871, when the work of the river survey reached the same locality, the fret had reached the brown line, implying a transposition of deposit" (not carrying the stuff down to the sea and increasing the tidal capacity, but an increase), "in 15 months sufficient to cover nearly 700 acres a yard deep. Following the progress of the fret up to the latest record in September, 1873, it had reached the red line implying——" What? "a further transposition of deposit in $2\frac{1}{4}$ years sufficient to cover nearly 1,200 acres." "The increased capacity of the tideway in the two upper compartments of the estuary implies a removal of deposit from these localities, and thus indicates a probable cause of some part of the decreased capacity of the 3rd compartment; the erosion of the clay cliffs within its boundary adds another." Then he says: "The statement before given with regard to the frets near Hale and Halewood Shores and the particulars noted of the Stanlow and Ellesmere fret illustrate" (What? Not an increase of tidal capacity or transportation of this stuff to the sea, but) "a condition of perpetual interchange of deposits which always exist in the bed of the estuary. The figures before quoted show the progress of such interchange at the place last named during intervals of 14 and 26 months respectively; if spread equally over the whole period from May, 1870, to September, 1873, they indicate an annual transfer equivalent to 570 acres one yard deep from the locality." Mr. Lyster showed those sections showing the transposition of the stuff from the upper estuary, and the consequent increase of Pluckington Bank to your lordships, in a very frank manner. All I say is, no one has more clearly held and shown and expressed in official writing the preconceived notion of the result of frets, namely, transposition, and not transportation, than has Captain Graham Hills himself. Others have said the same. I see that Admiral Spratt, in his report of 1878, refers to it as if it was a foregone conclusion that that was the sort of thing. He is talking of Pluckington Bank, and how it has fluctuated—he says that the height above low water remains as it was, but the other part had grown very much, and "The underwater contours of 10 and 20 feet depth have been projected into the deeper water in proportion similar to the extension of the dry area. Further observation shows that this extension of shoal water is due to the transposition of Devil's Bank, which has moved bodily to the northward, tailing out in a long narrow strip connecting itself with the southern margin of Pluckington Bank, and that this transposition of deposit is compensated by the

deep water which now occupies the former site of Devil's Bank and by the scouring away of the shoal margin beyond low water on the Cheshire shore."

Mr. ASPINALL: You challenged me to show you what he said last year about this, and he does give a strong answer in his evidence last year at page 839, Question 9928. On being asked by my learned friend, Mr. Rodwell: "He says in paragraph 57, 'It does not seem likely that access to the port of Liverpool will ever be seriously impeded while the present existing volume of back water is preserved.' Now will you take that as your text, and tell us how that warning on that statement of his applies to this case?—The warning applies in this sense, that the accretions which, as I have stated already, will certainly occur will affect every part of the river below them. As the tidal water is excluded little by little or more from one point to another, there will be a corresponding decrease in the tidal water coming into the Mersey. That decrease will decrease the velocity both of the flood and ebb. Of course a decrease of velocity suffers silt to subside which hitherto has been carried through. And so in that way there is no part of the river or the sea channel that will not be affected by loss of tidal water. Looking forward I consider that the river and the bay will be affected in somewhat two different ways. The river will be rapidly silted up, the bay will have the sandbanks beaten in by the heavy seas into the existing channel, so that the sea channels will suffer more by the action of the sea than by the silt brought down into them; but either way the result will be the same, the sea channels will suffer and the navigation of the port will suffer. (Q.) Those will be the gradual and sure consequences you think?—I am sure of it."

Mr. PEMBER: Now, Mr. Aspinall, for the first time in my experience, is sinning somewhat in the same way as my learned friend, Mr. Potter, sinned this morning. If he could have shown you a distinct declaration last year that Captain Graham Hills said frets increased the general tidal capacity of the river, I, having shown from his evidence that he has not said so, and on the contrary that in his report of the previous year, and in his evidence so far as it went last year, he has spoken of transposition always and not of transportation, he would have been justified; but nothing justifies him in simply sticking in a lot of evidence to the effect that he thinks the diminution of tidal water in the estuary will injure the bar. I dare say it will. I never said the diminution of the tidal water would not injure the bar, nor have I said that Captain Graham Hills ever said the contrary—and it is not quite fair to interrupt me in my speech, which must necessarily be long, and must be consecutive, by perfectly irrelevant interruptions of that kind.

The CHAIRMAN: I must say I do not consider it an irrelevant interruption.

Mr. PEMBER: There is no assertion there that a fret increases the tidal capacity. Now let me go on. I say not only does Captain Graham Hills say that, but I say also that Admiral Spratt does in the report which

I read, and so says Mr. David Stevensen, at page 185 of his book on Canal and River Engineering : " This tendency to deviate from channel to channel is common to all rivers that are left undirected to work their way through a tract of sand, and is utterly destructive to navigation. Continued during flood and ebb tide it sets loose a large amount of floating sand, which is daily drifted to and fro and deposited in some new situation. A channel which is thus constantly shifting its course never remains sufficiently long in one position to form for itself a properly defined bed, but is, in fact, always in a transition state, the sand which is worn from the *concave* side where there is the greatest scour being thrown," " carried " not " thrown " out to sea, but " being thrown to the *convex* side of the stream while some portion of the floating materials carried to and fro during this process of perpetual change is often deposited and forms shoals in the middle of the fairway. A river left in this state of nature cannot possibly attain the maximum depth due to the natural scour of the tidal currents as their power is expended in abrading and removing the sandbanks " (Do note that the tidal currents do abrade the sandbanks.) " through which the stream flows and not as it ought to be in deepening and scouring its bed. In such cases what is wanted is to secure a permanent channel by guiding the first of the flood and the last of the ebb tide by means of walls so that the strength of the currents may constantly operate on the *same line of channel.* In this way it is obvious that not only will the advantage of a permanent navigable track be obtained, but the constant action of the currents of flood and ebb tide flowing in the same channel will secure a much greater permanent depth than they could possibly do if permitted to wander at random through the estuary sometimes operating in the same channel and at other times directly opposed to each other and these results can best be attained by training walls." Therefore, Mr. David Stevenson says that what occurs is that the sand is deposited in some new situation, and thrown by the fret from the concave side from which it is worn, to the convex side of the river, showing that there was nothing in Mr. Stevenson's mind at all when he penned that which contains the common sense of the thing, nothing in his mind like what is in Captain Graham Hills' mind this year, namely, that the fret instead of depositing stuff in some other situation, carries it out to sea without doing which it could not increase the tidal capacity. So says Captain Calver : " A fresh water stream I believe is powerless to maintain a sea outlet." It is a fresh water stream, as Captain Graham Hills said to you, which causes these frets. These frets, he says, take place at low water when the fresh water stream is acting, and it is that which gets turned and cuts through the sandbanks, and saws across from side to side. In fact, upon this point, there was a general consensus until Captain Graham Hills said that this year as to frets increasing the tidal capacity and it has never been said in this shape by anyone except himself. I felt certain when I heard him say that that some time or other a contradiction to it would come either from himself or somebody, and I

was not disappointed ; mind, I am upon this dictum that frets increase tidal capacity. My hopes began to be realised in page 1073 for decrying my channel, Question 17796 : "May I say before passing to that subject that even the infinitesimal portion that would be partially filled cannot affect the bar because the velocity of the stream and the time of the tide does not admit of the stream from the excavation they propose meeting the bar at all so that it would be dispersed somewhere in the river or over the banks without reaching the bar at all;" that is the stream from the excavation which is up in the river where these frets took place. That is what he said distinctly. Now, thought I to myself, if the water cannot get down from that part of the river which is represented in my channel, how could matters in suspension in the water from that part of the river ever have got down to the bar, or have been carried beyond it ? Now at page 1085 you will see that distinct statement that his fret took place exactly at the time when it is low water in the channel. It is in answer to Question 15934 : "A great part of the estuary is dry, in fact at that time comes into operation the fret, the channel is then restricted to the narrow run through the bank. The velocity of the stream has increased in proportion as its width is limited, and it picks up the silt which grows from a proportion of 1·7 grains to a gallon at two o'clock to 52 grains in the latter part of the time." Now, there you see that is exactly the point—take what rapidity you please of the current—it has got between 20 and 30 miles to run, and long before any water in that channel can get to the bar, according to his own showing, it would have met the incoming tide, so that all that is carried with it will be brought back again, and what is true of the water in my channel is perfectly true with the matter in suspension in the water in the natural low-water channel—namely, that there is not time, ranging from the moment at which the frets begin to work—viz., at low water, when nearly all the tidal water has run off, there is not time for anything, whether water or matter, in suspension in the water to reach the bar. There is no doubt about that. But that is not all If you turn to Page 1141, you will find he clenches the matter. I knew exactly what I was about, and I wanted to get at the truth of this, as to whether anything that was done by the river in that condition, when it was at or near low water, could possibly affect the bar—that is to say, whether it would be possible for the water from the middle of the estuary at that time of the tide to get down to the bar, and so bring the matter in suspension either to the bar or send it away to sea. And what is his answer at the bottom of page 1140—at Question 16631 he is asked : "Would you just tell me this what to begin with is the velocity of the water in the present low-water channel say within one or two hours of the ebb of low water ?—Within two hours of the ebb it will be about its greatest velocity probably about four knots an hour." How many miles is four knots ? About five miles. It is 23 miles to the bar at least from the point he suggested—at five miles an hour it would have taken four hours to get down to the bar, but we know that the tide begins to flow at the bar long before the ebb has ceased in the upper estuary, therefore it has only two hours of its own ebb to do

the distance, which it would take it four hours to do according to his own showing, and yet that two hours is not all open to it, because before the two hours are over it will begin to meet the flood tide coming from the bar. And mind you, that is only to be the velocity of the second hour before ebb. Then he is asked: "About how long will it continue?—From the time that it gets to its greatest it will gradually diminish," so that it will not have the advantage of going at four knots an hour. "What would it be at one hour from low water?—Probably half that velocity. (Q.) Dwindling to nothing at the extreme end?—Yes the greatest velocity is soon after the banks uncover and the water is all confined to the narrow channels." Then, but not till then, did I feel safe in asking him the clenching question, "What is the latest period after high water in the centre of the estuary at which any water turned from the centre of the estuary would reach the bar?" He says most distinctly: "It could not reach it from the beginning of the tide till the end," if the water cannot, how can the matter borne in suspension reach it? Then he made the suggestion of transposition as being the real result of frets against transportation. I have referred to what Captain Hills said in his report of 1878, and those sections of Pluckington Bank under water put in by Mr. Lyster, showing a large increase in consequence of the deposit brought down the river—they abundantly show that. But I would venture to say this: if frets do not cause transportation, in other words, if they do not get rid of the materials they set loose before those materials get down to the bar, and without those materials getting at least as far as the bar you cannot have an increase of tidal capacity, what has become of the old channels? How are they filled up? No one says, they were of less capacity than the ones that had superseded them, they are filled up, and therefore the opening of the new one which is the consequence of the fret or the method of the fret must mean the transposal of its contents to some receptacle ready to receive them, and what is the receptacle? Why the old channels themselves physically where the stuff goes, though not necessarily in the first instance, it may be at either end of this red hollow, but eventually it finds its way into the bed of the old channel which is filled up with the contents of the new. And, moreover, this is a most remarkable thing. If frets increase the tidal capacity, how is it that the cubical capacity of the estuary has decreased since 1861 no less than 17,000,000 cubic yards. I do not know whether you have this document, which is the report of the marine surveyor made in the year 1881. If your lordships turn to page 5 of it you see that the tidal capacity of the estuary dropped from 1861 to 1881 from 979,000,000 to 962,000,000. Now, if frets, which had been enormously prevalent between 1861 and 1881, are to increase the tidal capacity, they ought to have increased it in that 20 years; but instead of that there has been a decrease. Now, look at this between 1861 and 1871; there was a still larger decrease than the total decrease of the two decennial periods. That is, there has been a recovery in the second; the total decrease from 1861 to 1871 is 24,000,000. Now he might tell me that the frets going

on between 1871 and 1881 raised the tidal capacity from 954,000,000 to 962,000,000, if it had not been that I had the tidal capacity in 1861; but if he tells me that the fret between 1871 and 1881 increased the tidal capacity from 954,000,000 to 962,000,000, I ask how is it that the frets between 1861 and 1871 allowed the tidal capacity to fall from 979,000,000 to 954,000,000. What is the net result, so to speak, of 20 years of fretting? The frets have filled up the old channels instead of taking the contents of the new channels out to sea, and further they have allowed other sources, that is either in the sea, or the cliffs of which we have heard a great deal, or the upland water bringing down more silt, to encroach upon the cubical capacity to the tune of 17,000,000 cubic yards. That is the net result of 20 years of fretting; so far from the cubical capacity being greater it is less by 17,000,000. That sums up as clearly as it can be summed up the claim of frets as increasers of cubical capacity.

Now there must be some other cause obviously at work to cause this decrease of the tidal capacity, and the only other cause at work is the tidal water operated upon by various causes; and so far as the decrease may be caused by anything from above in the shape of erosion of cliffs, we shall partially stop it, so far as it is caused,—no doubt it is caused very largely, as Mr. Barry and others tell you, by the silt and deposit which are brought down from the upper reaches of the Mersey and the inland reaches. We shall stop that altogether. But how Captain Hills, with his own surveys before him, could have held otherwise than this is, I confess, to me a puzzle. Just analyse a little further these figures, to which I have called your attention in the report of 1881, and while you do that, think of the skein of serpents in the meantime. Now you have got a decrease of 17,000,000 cubic yards during the two decennial periods with frets and changes of channel all the time as that skein of serpents shows; you have got that as a fact. Now you have got a decrease in one decade of 25,000,000 cubic yards, and there is no evidence whatever of any paucity of frets; in fact, at page 1112, Captain Hills admitted that there were plenty of frets. At Question 16346 he is asked: "There had been frets of one sort or another between 1871 and 1881. There were plenty of frets between 1861 and 1871?—No doubt there were." Then if frets increase the cubical capacity, how do you account for the loss of 25,000,000 cubic yards when they were so plentiful?—In the next decade you had an increase of 8,000,000 cubic yards, but not the slightest evidence of any increase in the frequency of frets. On the contrary, a great portion of the first decade was occupied by the great fret. All these two years of the great fret were in the first decade, and the greater portion of the last decade on the contrary is known to have been a period of comparative quiescence. On the balance of the two decades, therefore, though you had a great rise the period which was the more quiescent of the two is the one during which the estuary partially recovered." And this is a further thing to be noted, and it is very curious that if he contends he could claim the recovery between 1871 and 1881 as due to the increased tidal capacity of any portion of the estuary

as opposed to the tidal capacity of the whole—it is a funny thing that the increase of that tidal capacity is in part 3, which is the part we deal with where our channel is, and where the gain is from 565 to 581, and it is exactly in that part of the estuary where he says our increasing above low-water mark of that part of the estuary by 14,000,000 cubic yards will do no good, because no water in that part of the estuary can by any one tide reach the bar, and yet if increase of tidal capacity has gone on during that period, the increase of that tidal capacity was actually in that particular bed of the estuary. In fact, the increase is, from 1865 to 1881, about the same as ours, which is to do no good at all. Now surely this ought to have convinced him that frets do not increase tidal capacity. But, finally, it is a very odd thing, if you will look once more with me at those figures, that Part 1, from the Rock Lighthouse to Seacombe, showed an increase between 1861 and 1871 ; not a very large one, but about 1,500,000 ; it showed an increase at the time when the total capacity of the estuary went down to 24,000,000. That is a very curious thing, and that is the part which is so essential to Liverpool. So that, actually, the lower bit from the Rock Lighthouse to Seacombe increased appreciably, as did also Part 2, because Part 2 went up between 1879 and 1880. It increased appreciably during a period when the total cubical capacity of the estuary had sunk so vastly. Further, this is also funny—that though there is, in Part 1, when the estuary recovers, a slight increase—from 144 to 145—it is very little, because it is nearly 145 in 1871, a slight increase when the cubical capacity had increased, Part 2, which is the bit from Seacombe to the Narrows, including the docks in Pluckington Bank, went back about 8,000,000. Now all that is very funny ; but you see it shows that there is an absolute inconsequence between the increase of the tidal capacity and the increase of any particular part, because when there was a large decrease of capacity up goes Part 1 and up goes Part 2, and when there is a decrease of capacity on the whole, down goes Part 2. All this goes to show that some agent distinct from frets is an all-powerful agent—that is, streams, tidal current, silt and inland waters.

Now to this Captain Hills, in spite of my laborious cross-examination, will attach no importance ; but fortunately others do, and notably Admiral Spratt, whose report of 1882 I will call attention to upon that point. This is what he says, referring to the cause of the various changes occurring in the navigating channel. After stating certain palpable causes to which Captain Hills attaches a good deal of importance, he thinks he has overlooked the all-important consequences for the less important ones, which are more visible, and says this : " I am however induced to believe that the tidal action is frequently the more powerful and rapid agent of change when it is combined with a heavy gale from the westward on the top of high-water spring tides, for then the action of the surf, combined with the flowing tide sweeping as a torrent over the surface of the banks, must carry forward with it a considerable amount of the surface sand under every such condition, partially filling some

portions of the pre-existing channels and tending to level the whole." I confront Captain Graham Hills with this, and all he can say is, as he does at page 1103, that he does not agree with it. Sir John Coode, whose opinion is quoted at page 1596, is of the same opinion. He says this in answer to Question 17308: "That a gale of wind of 24 hours would bring about a far greater change in the condition of sandbanks and foreshores than ordinary weather of 24 months. It should therefore be always borne in mind that as a rule it was to the currents generated by wave actions and not to currents generated by the tide that those great changes were due. Do you agree with that or not?—That, I think, related to the question of harbours so far as I recollect the discussion. (Q.) And estuaries?—Yes, but I do not think what Sir John Coode was referring to was that. (Q.) Sandbanks and foreshores—do you agree with those two sentences or not? The Chairman: The inconvenience of putting questions in this manner is this if you refer to the bottom of page 44 you will see there that it says: 'Bringing together as it did in a condensed form all the salient facts with regard to a series of harbours.'" Mr. Nash goes on to deal with this part upon this paper, and I read the part about the Mersey estuary. Mr. Thos. Stevenson says at page 1163 that he admits the action of the winds and waves, and says that sands are thereby broken up and redeposited. He is asked at Question 17960: "Take this case of water agitated by high wind and passing over the surface of the sand entirely exterior to the channels what is the effect of the incoming and ebbing tides upon the surface of the sand?—The action of waves has a direct tendency to keep down the level of these sands; no doubt it is an agent for preserving the level of these sands." Mr. Stevenson, on harbours, on page 229 says, "The permanent accumulation to which we have referred will be greatest where there are projections of the land to afford shelter; but if waves get access from the ocean, or if the estuary be in itself wide enough to admit of the generation of waves a foot or two in height, the deposit will be to a large extent broken up and removed during high winds." Surely that is conclusive. And see what the engineer, Mr. Francis Stevenson, who was called for the London and North-Western Railway Company, says, at page 1779, in answer to Question 23170; he says, "In a great storm of wind or heavy sea such as I have seen in the river, great volumes of sand will be scooped off the tops of these sand banks, and they will go clean over your training walls and take the training walls with them and put them into your channel." Yet these are the winds and waves which, according to Captain Graham Hills, will do nothing whatever in stopping the permanent accumulation and consolidated form of the sand banks, all of which seem to silt up to high water mark. Then Mr. Barry had said, upon page 1200, that the sands are swept about with great ease by the tide. He is asked at Question 17370, "Is the velocity of the tide also very great?—The velocity of the tide is very high indeed; the result is that the sand is swept about with great ease by the tide, and the whole of the water is charged with sand to a very remarkable extent." But if I wanted any independent proof out-

side these witnesses of the force of the action of the tidal water on the sands, and the action of the tidal water upon the clay cliffs as proof positive of what its action must be upon sandbanks—I can quote Mr. Lyster on page 1284 upon his own report on the action of tidal waters upon the clay, and I have quoted to you Admiral Fitzroy's report, Captain Graham Hills' report, and Admiral Spratt's report of 1879. I do not think there was any question between Mr. Lyster and myself upon such a question of fact as that; in fact, I am bound to say that Mr. Lyster's evidence, though I do not agree with the bias with which it was tinged, is given fairly and honourably all the way through; and he never affected to dispute the fact of this effect upon the clay cliffs. On the contrary, he pointed out to me with great frankness how far these clay cliffs were acted upon by the tidal water, and did not confine his remarks merely to the point at which the fresh river water comes close up to the banks, but brought his pointer down to the eastern or southern part of the coast where it is all coloured green, and where nothing but the tidal water can reach the cliffs.

Now, note what the effect of the tidal water upon the clay cliffs is at high water, when the velocity is practically nil; yet the mere lapping of the surf can erode and carry the clay cliffs down into the estuary; how much greater must be the action of the tidal water upon the sandbanks, a more easily stirred material to begin with, affected too when the water is at a lower level, and operated upon when the tidal water is of far greater velocity. Captain Hills says everything is covered for two hours on high tide, that is at page 1099. The velocity when the banks are covered is two miles an hour; that is abundant to stir the sand. The velocity he earlier gave me at three, four, and five miles an hour, that is on page 1100. At that time, when the velocity is what he has given it, though the sandbanks are not all covered, vast tracts of sand may be operated upon; it is obvious, therefore, that the tidal water in ordinary weather must be very powerful in shaving and toppling over and cutting through and upsetting banks, and changing their formation. Captain Hills says the flood tide runs at $3\frac{1}{2}$ miles an hour at Hale Head. See what his description is at page 1101. The stream of tidal water running hither and thither amongst the sandhills according to the different configuration of them, rapidly or slowly, according to the level. He is asked at Question 16179: "I suppose the velocity at which the streams are described as coming in all directions over the sandhills would be greater even than at the first?—At different parts the rate would be different. I mentioned a case where, when I was steaming in my boat and could fairly hold my own within a few minutes, the tide was sending me in an opposite direction. (Q.) You have given the velocity when first the banks are covered at two miles an hour; now, you have spoken of what was previously the case, namely, what occurs while the incoming water is in process of covering the sandhills, how it starts in this direction and in that direction. That would be, I suppose, at a greater velocity than two miles per hour?—No; as it covers the sandbank it is very uncertain

if the water happens to make a rush over the higher part of the bank and fill a hollow it comes with considerable velocity ; as soon as the hollow is filled the velocity is gone." Then I said at Question 16185 : "Must not that very fact be the cause of a number of little streamlets running hither and thither among the banks ?—Yes, running hither and thither. (Q.) They run at a considerable velocity ?—Some do." That all shows that you have got operating on the sandbanks in accordance with the views held by all these gentlemen, whose works and evidence I have quoted, tidal water even in ordinary weather acting in all kinds of directions and with all kinds of forces. Then you must remember, also, that the tide falls seven feet at Garston, and eight feet at Runcorn in two hours, and more than 13 feet in two hours and forty minutes, and he says that at that time more than one-fourth of 710,000,000 cubic yards, which he gives as the tidal contents of the estuary, has fallen in that time, and he says at the end of the two hours and forty minutes a much larger proportion of water in that portion of the estuary has run off. Then I say that water running off at that point it is perfectly obvious it is running off the sandbanks at a pace quite sufficient to stir them about and alter their configuration in a very sensible degree. But here we are talking of still water. Still pledged to his theory of frets being the only means by which the deposits are prevented becoming permanent, and when I confront him with Admiral Spratt he says he does not agree with him. He will not pledge himself that the velocity required to move sand is the velocity which is given in Mr. Stevenson's book, although the latter has to discredit his own work by throwing dirt upon the table of velocities published in his book, notwithstanding he knows and says that he was responsible for them, and says they were intended to guide professional men. But this erosion of the clay cliffs is undisputed. Now, that silt which so erodes the cliffs of the estuary, and must have been working like a saw or a rasp sideways, is toppled overhead, and as it swept onwards up these sandbanks along the sands comes over the top like a huge river far above our training walls. What is the common sense of the matter ? Is it what Captain Graham Hills, who denies this, says, or what all these other gentlemen say ? I say that the conclusion is inevitable—namely, that the existence of frets has never caused increase of the cubical capacity or the preservation of it, and I say that the stoppage of frets will not be followed by an increase in the general bulk or height of the sandbanks, that the main agent of redistribution will always remain that which it has been up to this time, tidal action daily renewed at all heights and all places, and intensified every now and then—and very beneficially intensified by gales. Upon this theory, therefore, of the usefulness of frets in increasing the tidal capacity and breaking up and redistributing the sandbanks, the main case of the opponents is built up, your Grace ; and with the destruction of it, which I flatter myself I have completely accomplished, their case fails.

CHAPTER XXII.

THE ESTUARY CASE—ACCRETION.

Now, my lords, as to the question of accretion; there are two factors here: what is there to accrete, and what will be the cause of accretion? On the first question, what are the materials that accrete? A good deal hangs there. Now, to understand that, we must realize something of the geology of the estuary. What is it Admiral Spratt says in his Report of 1880, pages 5 and 6. He speaks of a broad depression, and he says this must have been the "old channel of the Mersey when the land stood at a higher level, but which is now filled up everywhere with the sand and débris to the level of low water and in parts even much above that level, which the present condition of the tides and freshets fail to remove." That is obviously so. The land stood once at a much higher level, and it has since been filled up. Whence? Obviously by deposit brought down the river, and when once the basin has been filled up to the low water level and above it the regime, as we understand the regime of the river, begins; deposits are still brought down the river partly by silt in the upland reaches, and partly by erosion of the cliff, but the main stock of sand and silt of the river has reached the level at which the flood and the ebb tide begin to act and react upon it, the flood tide disturbs and throws up a certain amount, and the ebb tide throws down a certain amount, and the reciprocal forces of the tides in the mains are kept fairly even. That Mr. Lyster admits at page 1274, Question 18212—he says that the quantity of incoming and outgoing silt is a fixed amount, and that "certain conditions of weather storms and gales of wind add tremendously to the amount of silt. (Q.) And certain other gales take it out again?—Yes. (Q.) There is a fixed stock of silt?—Yes, I suppose there is, varying according to the condition of the weather." Now, upon page 1281, Mr. Lyster thought he had misunderstood me, and he said: "I should like to explain that as I fear I may have misunderstood you. What I meant by my answer and what I understood by your question was distinctly the amount of silt that was contained in the tide that went up the river between the rock and the opposite shore of the channel of the river—you asked me if it was a constant quantity and I said probably taking one tide with another and all the natural circumstances that surround the growth of silt storms and so on that I thought over a certain number of years the amount of silt probably in the water of the tide would be pretty constant." (That is what I did mean, but he thought I meant something else.) "But I did not mean by that for an instant to say that there is no more silt but what is held in suspension in those tides—there is sufficient silt in the Bay of Liverpool to go on depositing over the whole upper estuary so as to fill it up. I was afraid that I had misunderstood your question when you asked me about the constant supply of silt, but I may illustrate it in this way. Assuming a spring tide and 710,000,000 cubic

yards of water entering the river with the amount of silt in mechanical suspension due to that quantity of water—if by magic when all that water was in the river the whole of that silt would be suddenly dropped into the river and the sea water was to retire in a perfectly pure and siltless state—I do not for an instant wish it to be supposed that because it has deposited that amount of silt the next tide will not take in an equivalent of silt also." I never supposed he did mean it for a moment. All I say is that when once the regime of the river, as we understand, and as Admiral Spratt says, is once gone then in a general way the inflow and outflow of matters in suspension are the same, and the reciprocal forces of the tide are kept fairly even. It is true the ebb tide contains the proportion of 33 to 29 of the quantity of stuff in suspension as contrasted with the flood; but that difference arises, as Mr. Barry pointed out upon page 1200, from *detritus* brought down from the upland water and from the cliffs. Well, even with this balance on the ebb tide as against the flood tide, the floods in the river and in the general cycle of unknown circumstances and conditions enable the river to get rid of that balance. Now just see what we do. The river now has to contend with 29 of silt coming in, and 33 being brought down, we shall trap, and for ever deal with, the greater amount by far of the amount brought down from the inland sources—our canal and our channel would be for this a vast filtering or deposit bed of 30 miles long, along the whole length deposit will take place (and I am speaking now of silt coming down from the upland waters of the Mersey and Irwell) which we shall have to take away, with this,—which is a very vast amount—of course formerly the estuary had to deal, our canal and the channel to this extent will be a kind of chapel of ease to the estuary, and we shall be constantly dredging this and carrying it away; and that answers the dilemma which was put by a noble lord two or three weeks ago, when he said some will come up and less will go down; what becomes of the balance? The answer is, It is trapped in our canal and channel of 30 miles long; it is dredged and carried away to sea. I therefore say that the first results of our stereotyping the channel, walling the channel, making our canal, and maintaining all the depths when once made, both the channel and canal would not be accretion, but the removal to a very sensible extent of the materials for accretion—the total of the river water together, that is the total water coming in and out, the river water coming down, both charged in their own degree and in their own kind with silt, will, together, have less to deal with by all that we trap. The strain, therefore, upon the suspensory power of the ebb tide will be relaxed, and the silt resources of the flood tide diminished, that is to say, by all the amount we so trap and dredge away the flood tide will have less to bring in, and the ebb tide less to carry away. And more than that, all that sand, which, according to the evidence of Mr. Stevenson, the engineer, is to be brought by storms, toppling over from the top of the sandbanks into our channel, which is brought from the middle bed of the estuary, that we shall trap, dredge, and carry away. Therefore,

we start with an increase of tidal capacity of 14,000,000 cubic yards, and we shall constantly produce a recurrence of diminution of the stuff interfering with the growth of the tidal capacity by the constant dredging of our canal and channel for a distance of 30 miles; and, being supplied from three or four sources from a stock which would otherwise be an increase of the stock of deposit and silt, sand and clay in the estuary itself. That, I think, must be tolerably obvious. That is our first result. A positive and a substantial benefit—that is a diminution in the materials of accretion. But the training walls, they say, are to cause accretion themselves. That is a deceptive term. If it means the sort of accretion which goes on wherever Nature changes the channel for herself, it is true. I have no doubt, though it will be a slow process, that the old channel will silt up; but, if it means that we shall add to the total amount of deposit in the estuary, it is untrue; we must diminish it, if we do anything, for the reasons I have just given —no silt will henceforth go into the estuary unless it can travel over the whole 30 miles without becoming deposited; and a great quantity of eroded clay will be stopped, because there will be no erosion by the river itself where it touches. Where the deep channel has hitherto been under the cliff at Dungeon Point, and the bend at the top; and thirdly, a great quantity of sand which only used to be tossed about the estuary will be tossed into my channel and be taken out. Therefore, if they say I shall accrete by adding to the total amount, not only shall I not add to the total amount, but perpetually diminish the total amount. But if they mean that there will be an accretion behind my walls where they are above the level of the sandbanks, I admit it at once, and that will be analogous to the accretion that goes on where Nature is changing the channel. But to say that I shall add to the total amount is nonsense. You may as well say a miser adds to the amount of bullion in the country by putting sovereigns in his strong box I shall do more than the miser, because he has never been accused of destroying his sovereigns, but I shall take the sand and silt that come into my channel and take them away, and the water which comes from the common stock. But leaving them out of the question and saving a certain amount of the sand being transposed by gales and the cliffs eroded by gales, I want to know how do I permit or encourage the sea to hurl in one extra bucket of sand—what can my training walls have to do with the sand coming in upon the flood tide? It is obvious they cannot. On the other hand, how do my training walls prevent the ebb tide carrying down anything that it would be disposed to carry down? Will the flood tide ever know that my low training walls are where they are going to be as it sweeps some 20 feet above them, and will the ebb tide be in the least degree more sensitive? Certainly not. Where we cross the bed of the existing channel we shall leave the tidal water to fill up the bed of the existing channel, as the tidal waters fill it up now, when Nature has left it a disused channel, gradually, by shoving off and tumbling about the cubical contents of the higher banks into it. This will be very gradual, no doubt. Mr. Fowler told you that so gradual has

it been upon the Tees, that even the old disused channel of the Tees has hardly yet silted up in all these years. The process will be slower than the old natural process for this reason: that where Nature unassisted had got the channel to change, changed it—she had got at her disposal for filling it up all the contents that she was tossing out of the new channel. Nature now will not have the contents of the new channel to dispose of; we shall take those away to sea once and for all; therefore the process will be slow. The old channels, too, are the only spots at which we are seriously above the level of the sand, even there we are below the level of the neighbouring sandbanks—by that I mean that supposing you take any point where we cross the old channel you may see there the walls are 15 or 16 feet above the bed of that old channel—as a matter of fact you will see sandbanks in the neighbourhood as high and higher than our walls, so that we are only above any unusual depression of the sandbanks even at points like that.

Lord NORTON: Do you argue that the effect of the channel will be perpetually to reduce the cubical contents of the estuary—no accretion but constant removal?

Mr. PEMBER: No accretion but constant removal—by cubical contents of the estuary, I do not mean the cubical capacity of the estuary.

Lord NORTON: It will be perpetually doing it?

Mr. PEMBER: Yes, for this reason—that every ton of sand borne by a gale of wind swept across the estuary and tumbled into my channel, I shall dredge away and carry it all out to sea for the purpose of maintaining my channel, as the régime of the river now involves only a certain amount of sand and silt to deal with, except that brought down from the upland reaches, or that which is caused by the erosion of the cliffs, and as I shall stop the one altogether, the general stock of silt and sand together to be dealt with by the estuary, or the flood, or ebb, will be smaller than it is at present; and even that small amount I shall dredge away, and eventually get rid of altogether finding its way into my channel.

Lord NORTON: So that the estuary will be perpetually deepening?

Mr. PEMBER: The estuary will be perpetually improved.

Lord NORTON: Deepening?

Mr. PEMBER: Deepening means improved; it seems to me demonstration; I can see no answer to it. We do not interfere with the sweep longitudinally of the tidal area up or down the estuary, as you see the sandbanks will be far above the level of our training walls, supposing in gales, and by the transverse action of the wind and wave, any amount of sand is tumbled sideways into the channel, I shall take that away for my own sake, and every ton that is taken to sea is a ton taken out of the general fixed stock of silt and sand in the estuary. For that reason alone, unless I increase it in some other way, there must be constantly a recurring benefit to some degree or other caused to the estuary by my works; then there is a constant benefit now by the absolute withdrawal of the silt coming down from the Upper Mersey into the

channel, and which I shall take out in some way, by the prevention of the erosion of the cliffs by the withdrawal of the fresh water channel from the sides of the cliffs where we impinge upon them now. Supposing my channel were in the middle of one of these distorted sections; supposing any of that alpine ridge tumbles into my channel, I dredge it out and take it away, and there is so much less of the alpine ridge left, and it will go on from year to year and cycle to cycle. I was just about to say that where I was in any degree seriously above the level of the sandbanks, it was where I crossed the old channel—behind my walls no doubt there will be accretion, and indeed the old channel will be filled up exactly in the same way as Nature fills it up now, only it would fill more gradually. Their model is very misleading, because it shows a great red ridge above the sand all the way along, which is not the fact. Mr. Harcourt was perfectly fair to us; he said on page 1186, "Your walls are only slightly above the sand banks on the whole"—that is in answer to Question 17207. Mr. Vernon Harcourt was right when he gave that evidence, but since then they have been cut down several feet, so therefore his answer would be modified in our favour. My challenge to the opponents to disprove the fact, that except where we cross the old channels we were only a mile and six furlongs above the levels of the sandbank, which is given at page 1140, comparatively early in these proceedings, has never been taken up. Now just see what that one mile and six furlongs is. What is it? The little narrow strip or ridge across the longitudinal section of that estuary which might be represented by the width of the narrow part of the wand if you laid it across the channel. There is a little bit across the estuary where it might accrete. Supposing my walls accreted outwards, as they have done upon the Lune, how much would it represent? But the accretion can only come by transposition from some other part of the estuary of the stuff needed to form the accretion. In fact, it will be a cliff going in to fill up a valley. Mr. Vernon Harcourt was useful to me in his book on tidal rivers; he tells me this on page 236: "This may be sometimes accomplished by low training banks which, whilst directing and concentrating the latter half of the ebb, do not materially impede the admission of the flood tide of the estuary. Where the estuary is very wide and irregular and the main river channel through it is very tortuous and shifting, high embankments may be formed on each side widening out towards the sea, and the land behind them reclaimed," so that in very wide estuaries there would always be high training walls, and he says that low training walls do not materially affect the passage of a flood tide. Moreover, this little distance of 1 mile and 6 furlongs, at which we are above the level of the sandbanks, is only gained, as Mr. Lyster said at page 1279, by counting a very excessive height down to an inch. I said to him: "You understand what I mean if I say I have counted every inch?—Upon a scale of that kind 40 feet to the inch it would be impossible to get so low as an inch." When I tell you that our walls are above the level of the sandbanks you must remember that in some places it is so trivial that you would not know it. What sort of accretion could be caused by walls

like that? Wherever any little accretion, which I admit to the full, ensues behind a piece of upstanding wall, it would be sand or silt borrowed from some neighbouring sand hillock. That is perfectly obvious, and through the whole of the literature upon the subject I can find no hint ever given that under any circumstances low training walls caused dangerous accretion. Every writer or thinker upon the subject has gone upon the opposite assumption till the evidence given in this case. Mr. Barry is particularly clear in our favour. At page 1207, Question 17470, he is asked: "Let me see if I understand the way you put it. I understand you to say that in your opinion low training walls being constructed as proposed by Mr. Leader Williams will lead to sandbanks being formed up to the level of those low training walls?—No, I did not say that I said where they are above the present level of the sand, accretions will take place behind them, but where they are below of course it will not." Recollect that the evidence of Captain Hills is to the effect that our training walls are going to cause the whole of the estuary to silt up to high water. Mr. Barry, recollect, contradicts that.

That being the opinion of Mr. Barry, a very first-class engineer, we are told upon the other hand by some of those gentlemen, notably Captain Graham Hills, that our walls will cause accretion up to high-water mark. Consider the height above the walls to which this brings accretion. Mr. Thomas Stevenson, the river engineer's evidence, which is given on page 1153, is all given upon the assumption that we are going to raise our walls. He says in answer to Question 16794: "You must raise your wall to keep the sand out," and then he is asked, "You must keep your wall perpetually above the sand?—Yes." The answer is, We will not; we cannot by the frame of our Bill. We shall dredge instead, and the very toppling over which Mr. Stevenson suggests, as the other Mr. Stevenson did, shows how the tidal water acts upon the sands and throws them about. What else will make the sand topple over into the channel except the transverse action of the tidal water agitated by wind and wave? Mr. Lyster, I believe, though not unnaturally, did not think the toppling over would be anything but trifling. However, it is obvious common sense that it is so, and that disposes at once, if Mr. Barry is to be trusted, of any notion that there will be any accretion at all caused by our training walls where they are below the level of the sandbanks than where they are above the level of the sandbanks. The only accretion that can be caused is the accretion achieved by the toppling of the sands from the high level to the little places behind the walls.

Where, I want to know, is there the slightest evidence that the low training walls have ever brought about accretion? There is nothing whatever about the subject, that is to say, the training walls which are below the level of the sandbanks. On the Dee, or the Lune, or the Tyne, a perfectly different method has been pursued. When I cross-examined Captain Hills upon the subject of the accretion behind the training walls, I suggested what is the difference between my method and that of the Dee, the Lune, and the Seine.

He does not think there was much of a difference, but on page 1139, much to my astonishment, he admitted point blank that the only river that referred to the case before you was the Tees. It is in answer to Question 16613. I was referring him to other rivers, and he said he was referring to the Seine more particularly. He is asked at Question 16609, "This is quite another thing?—They had either to submit to the shore slipping over the walls where the accretion stopped or raise the walls. (Q.) But the Seine has got high walls has it not now?—The greater part of it or a great part of it. (Q.) Is there any river you have mentioned which has not got high walls?—I have not mentioned any river in particular. (Q.) I thought you had mentioned a great many?—I referred to certain rivers which your side mentioned. (Q.) That is mentioning them?—I have given the Tees which is the only one which applies to the case before the Committee." Can you have anything more positive than that? I say there has been no accretion upon the Tees. Mr. Fowler's evidence was very precise. "The Tees is the only river that applies to the case before the Committee." There has been no accretion upon the Tees. What could be more precise than Mr. Fowler's evidence upon that point?

Then you will not forget the double set of training walls upon the Tees—the high ones being the outside of the estuary and the lower ones running through the middle—the high ones are for the purpose of embanking land and filling it up, and it is now filled up with the accumulations of various works, but the low training walls to guide the channel are the walls which are in point in our case, and with respect to which we say there has been no such accretion. Mr. Fowler denies over and over again that there has been any accretion, and he says at page 662, I have made a careful examination, and at Question 9870 he is asked, "What has been the result of your examination?—The result of the examination was to find the sandbanks lower at the reclamation training walls than they were in 1853. There is very little difference in the middle in the seal sand there and no difference upon the other side—the result is that the cross sections are rather deeper than they were. There is no difficulty in proving what the sands were because the Admiralty surveyed the Tees in 1853, and they took soundings throughout the whole estuary from high water to high water, and those soundings are marked in figures upon the plan, the original of which is at the Admiralty, and a copy of which was given to the Tees Conservancy Commissioners, and they paid the cost of making a manuscript copy of it so that the state of the estuary at the present time, and the state of the estuary in 1853 can be found exactly." Then he says that he has made a survey upon the question before. Then he is asked at Question 9869: "Have you made a survey both of the foreshore and of the estuary during the last few months?—I have been over the whole estuary." He says distinctly there has been no accretion whatever. Now the only contradiction of Mr. Fowler is the impression which Captain Hills says he got from a casual eye glance. He says: "I went down. I took no surveys, but I saw the place and I saw a place

where there was accretion. There may have been some little transposition of stuff from one point to the other fretting is thrown in occasionally. It may be it was a lump of fretting which he saw. but Mr. Fowler examined the green growth which deceived Sir Frederick Bramwell last year." At Question 9871 he was asked : " At any time during the whole of this period of time 30 years has there been to your knowledge any period in which the estuary has sustained damage either from accretion or transposition ?—No. In 1829 or 1830 Captain Hewett made a survey of the Tees and there were differences between Captain Calvert's survey in the higher parts and the survey of the higher parts of the estuary by Captain Hewett. The south side of the estuary is not movable, it is soft mud with marine vegetation." No doubt that is what Sir Frederick Bramwell saw both last year and this, but they knew their case last year about the Tees. Captain Graham Hills must have known that he thought the Tees one of the rivers in point, but no fresh evidence is offered to you except the casual glance of Captain Graham Hills and Sir Frederick Bramwell's casual glance, which he took in both years. No fresh evidence is offered as to the accretion. No local men are brought to say we know that there has been accretion, or who have taken surveys, and we know there is no evidence whatever suggested. Yet surely some might have been deduced. I say, therefore, that the evidence is perfectly strong given by Mr. Fowler, who is the very best person to know about the Tees, and who has had it in charge for half a generation. There is no contradictory evidence that there has been no accretion caused by training walls upon the Tees.

Captain Graham Hills sums up his evidence upon this point at page 1074, in answer to Question 15816. He says: " I venture to put it as strongly as I can to their lordships that there is no instance anywhere of an estuary trained through walls like that without the training being followed by silting." Then follows my cross-examination, and I challenged him to give me an instance of low walls forming an accretion. Then he immediately put the Seine upon me, and I pointed out an essential difference. I asked him whether there his instances are not instances of high training walls, and then he says, at the close of all, that the Tees is the only river in point, and there has been no accretion in the Tees, neither has there on the Clyde, as the Rivers Pollution Report shows you. But before I leave that point I should just like to show you one or two things which were stated in Mr. David Stevenson's book, which bear upon this point, as to whether such walls as these will cause accretion. He says, speaking of the Dee, first : " It will at once be seen that the works constructed in the process of land making as carried out on the Dee were totally different from the low water training walls which I have described. The system pursued is in fact in direct opposition to the principles of river engineering which have been laid down, and the result as has been seen has not been favourable to navigation at all events in the case of the Dee." Then he says further on—" The change produced on the relative levels of the low water and the banks by the depression of the low water line described at page 250 have sometimes

led to considerable misapprehension. This lowering of the surface of the water when the river is confined by walls in the lower part of an estuary invariably conveys the impression that a great rise has taken place in the level of the adjoining sandbanks, and it has consequently been thought that the erection of river walls is inconsistent with the principle of non-exclusion of tide water which I have been advocating. But leaving out of view for the present the enormous gain to the navigation by the increased scour due to the enlargement of the channel as explained at page 224 it can be shown that even the increase of the sandbanks may be greatly misunderstood and exaggerated." Then he says this, which is very strong, giving a number of illustrations —he says: "From all these considerations I infer that the effect of river walls upon an estuary is mainly to prevent the constant disturbance of the materials of which the banks are composed, but not necessarily to occasion additional accumulations," and then he goes on to say that people had made a mistake about the Lune, but that I do not care about. Then he says this, speaking of the increasing scour: "Such a result may indeed be expected for it is difficult to conceive in what way parallel walls formed in an estuary can operate either in bringing down additional alluvial matters from the river above or in bringing up additional detritus from without the bar. Holding these views and supported by the actual observations made in the case of the Lune I therefore conclude that the tendency of works executed in accordance with the principles laid down is not necessarily to produce additional accumulation of matter, but simply to alter the disposition of the existing materials of which the bed of the estuary was originally composed." That is what I have been struggling for all along.

The CHAIRMAN: Those are Mr. Stevenson's general views, not applied to a particular case.

Mr. PEMBER: Certainly not, but my view of the present case is based upon the antecedent assumption that nothing has been shown to take the Mersey out of the general law.

The CHAIRMAN: I understand your point.

Mr. PEMBER: What was the use of citing a number of inapposite rivers. Take the Dee. The purpose of the Dee was not to avoid reclamation —they began with transverse groynes, many in number, the ordinary result of accretion, of course, took place behind those such as one may see at groynes anywhere along the south coast; then they put longitudinal ties and cross walls or high cross walls. Now take the Seine which leads me to one of the last points. If you look at the Seine there are enormous tracks of the inner estuary cut off in loops by training walls. Take the first, the largest brown patches; you see the training wall begins over the "H" in Havre where the accretion was, and touches the green on the other side; in other words a large loop of the estuary was cut off by the training wall and formed a bed for silting, and not only cut off by a training wall, but by a *high* training wall, and there was an enormous loss. You did not see also there that the action of the ebb tide was altogether *stopped*, because one of the training walls goes up to the point over the

word "tideway" at the north side; so that the action of the ebb tide was lost there, and the action of both tides was lost to a large extent. You see also where the *cross walls* are on the Seine above Berville. The accumulations there which are so much loss to the estuary must not be confused or confounded with any apparent accumulations lower down. You recollect the training wall will always be standing up above the level; they were raised at once above the level and raised from time to time in lieu of dredging; that is the main distinction. There is an essential difference in our method and extent. The Seine has a drainage area of 30,000 square miles; the Mersey has only a drainage area of 1,700 miles. See what happened: There was an enormous amount of space over which the water used to expatiate; it was intended by an enormous scour to clear the reaches below Rouen, and set up a scour by the river itself. They never dredged the river below Rouen where they confined it within training walls. They never took the stuff out; they left the river to take the stuff out, and the consequence was as no dredging was done, that instead of excavating a trained channel and carrying its contents to deep water, they let the river Seine scour itself, and the consequence was transportation of this sand to the lower reaches of the river; it caused great accumulations, and has been causing them up to this time in the lower reaches of the river; but once done that is over. In fact, making an artificial channel in the Seine was exactly what was not done; it was a huge artificial fret, it was a channel scooped out by the river itself assisted by these two training walls for about 90 miles—to such an extent was this scooping carried on by the river itself, that ships which draw 20 feet of water can now go up to Rouen, where before that took place only ships drawing seven feet of water could go up. Conceive what a transposition of stuff there must have been there making all that difference in the navigable capacity of the river. Of course you must expect enormous accretions lower down; you will not find those accretions with us, because we carry them down to the sea. Captain Hills' evidence is clear that there they depend upon the scour. He says that on page 1078. But as it is the main entrance from the sea the navigation up to Rouen is untouched by any accretion, as Captain Graham Hills admits at page 1124. It is not that it is the approaches to Havre which may have been damaged, but the main entrance from the sea up the river is untouched, and unharmed, according to the evidence which we have got. Therefore, the result upon the Seine that the main sea entrance is untouched gives you a not untoward indication about the Mersey; but a good indication, namely, that it may be done without harming the sea approaches. The truth is that if the approaches to Havre were threatened, which we deny, it would not be to the point. Havre does not represent Liverpool in its position on the Seine. The approaches to Havre do not represent Liverpool bar, nor do they represent the channel up the Mersey to Liverpool. Havre is round a corner; it is, so to speak, out of the great fairway of the Seine; Havre is much more like what Formby would be upon that map; it is Formby not Liverpool—it is recessed out in the sandbanks near the "M" in

Manchester ; that is the position of Havre. In scouring itself out, and being trained, but not dredged, the Seine has sent down, it is possible, large quantities of *detritus* to Formby, so to speak. There is an enormous quantity of freshwater comes down the Seine, and, no doubt, its power of propulsion is extremely great ; but it has not done anything with the *detritus* and sand, we shall do because we take it out of our bed and dispose of it ourselves. Moreover, the training walls on the Seine end where the river is very wide. Captain Graham Hills admitted the width of the estuary across there as 8 kilometres, five English miles. If you look at No. 28, which is in the appendix to M. Vauthier's Report, you will see the channel keeps varying very much in the same way as the channel of the Mersey varied during that period represented by what I have so often called Admiral Spratt's skein of serpents, what you have had going on between the termination of the training walls and Havre is exactly what you have had going on up to this time in the upper reaches of the Mersey, namely, constant fluctuations of the channel frets and therefore tranpositions ; therefore I am not in the least degree surprised to find Captain Graham Hills saying, if you look you see the deep water channel has varied further to the east or west, or north or south, and the people of Havre are afraid that their approaches are being damaged. If it were so, the approaches to Havre, if they were damaged, would not be damaged by the training walls that have been put into the river, for the improvement of the navigation up to Rouen, but by the vagaries which the river still indulges in in consequence of having the power of indulging in the vagaries now over an estuary five miles in width. M. Vauthier's undisputed figures show that the forces of the second moietiè have increased upon the whole from 126,000,000 in 1853, to 192,000,000 in 1875. The training walls may have really improved in the main, the river by the scour, and the concentration of the channel, but the variations of the channel below the training walls having gone on in the same sort of way that they have gone on hitherto in the Mersey, may have caused transpositions, though not accumulations, which may have caused the fears of M. Vauthier and the people of Havre. But nothing of that kind will go on with us, because at Liverpool there is nothing of the sort; the channel does not vary below Liverpool now in the same sort of way that the channel varies below Berville, and our training walls cannot make it vary. Our training walls will intensify the present effects, keeping it straight. If the present conditions of the river and the Birkenhead narrows and Liverpool Docks are sufficient to keep a good fine deep-water channel from Liverpool out to the bar, we say that the prolongation up the river will have the same class of cause as the narrows and dock walls and quays of Birkenhead and Liverpool; therefore we shall have a prolongation of the same effect as we have a prolongation of the same class of cause. It is not true to say that the works in the Seine were stopped because they were dangerous to Havre, that is not stopped in the sense of being half done as the Mersey Commissioners may stop my works if they are proved to be injurious. Havre got frightened in 1864, and they pro-

tested against them, but they were completed down to Berville. Discussions have been going on as to whether there shall be further prolongation, and at present the decision seems to be to go no further than Berville, but they were not stopped in their original intention in 1864. M. Vauthier's exhaustive work upon the subject is in my favour—you will find a resume of it upon pages 1133 and 1134. I will not read it all to you, because it is very long, and you have it in your mind ; but he winds up with the declaration that funds will never have been more worthily expended, or in a manner more largely remunerative, than upon the proposed works in the Seine. He was writing in 1881, and to show that he does not merely refer to events before 1875, I notice on page 1132 he refers to the memoir of 1878, in answer to Question 16572, and most distinctly we read what he had said only a year or two ago, showing that he had not changed his mind since he wrote his pamphlet in 1881. It is no use calling that gentleman a partisan ; Captain Graham Hills introduces him. He had a funny notion that he was entitled to read a little bit of his report—his opinion is before you—and it is an opinion of great weight, and we know the deductions it contains which are eminently favourable to the works in the Seine.

But now I want to ask this question : If M. Vauthier is wrong, if he is a partisan of Havre, if in spite of being a great engineer with a great reputation to maintain, he not allowed his partisan feelings to warp him ; if the works in the Seine are really a gigantic error, and a warning, why has no competent French engineer been called to say so ? Last year we were threatened with a great French engineer, as we were this year—he never came ; this year the same thing is done—this year a sort of apology is given, the condition is appended to the threat, "If the Government will let him come he will be produced "—that condition is obviously ridiculous. Are there no great engineers in France who are not Government engineers ? Are there no great engineers in France untrammelled by Government fetters ? If not our opponents knew that last year perfectly well, and as they knew last year they could not call him last year ; they knew still better this year they could not call him this year, but we actually could have introduced them to an eminent French engineer, not subject to official fetters, we could have pointed him out by name, we could have told them he was a M. de Coene, well known as a public man in France. If they had any difficulty in finding him, we could have told them that they need not look further than behind Mr. Aspinall's chair in this room. We could have told them that for several days we saw the gentleman occupying that enviable position, and we could have said his then place of residence was the Charing Cross Hotel ; and if you ask who was paying his hotel bill, there would have been no very great difficulty in discovering ; and we are now able to tell you that one of our principal witnesses, Mr. Marshall Stevens, had the pleasure of travelling with him back to France ; but he was not called. Now, I say, as far as my memory goes, we heard nothing about official trammels last year, and it is ridiculous to say that it would not have been easy to have called a French engineer

this year. Nobody who knows the Seine is called—nobody who could speak at once with authority, and with a sense of responsibility, is put into the box to tell the story of the Seine. In the meantime I have been presented with M. Vauthier. I did not present him myself. He, with the interests of Rouen at heart, no doubt, but with the facts of Havre fully before him, with vast knowledge to apply, and with a great reputation to maintain, declares, on a review of the whole subject, that funds can never be more worthily expended by France, nor in a manner more largely remunerative.

I have before me now one of the reports presented to the English Parliament—H.M. Consular Report of 1884, which treats of Havre, Rouen, and the Seine, which says the docks at Havre are being largely increased because longer vessels, which means larger, are using them, and there is not a hint throughout, though the commerce of Havre is said to be increasing, that there is any complication in the nature of decreased approaches to Havre, or anything of the kind, or damage from the works in the Seine.

With regard to the Ribble and the Lune less has been said and less need be said. In the first place the silt in the Lune is stated by Mr. Stevenson to be 70 to 30 upon the Mersey, and they have done no dredging, just as they did not do any upon the Seine, or need do none; but the total amount of accretion up to 1851 was three millions at the time when the accretion and scour had balanced, and since then the total is five millions, showing a balance of accretion of two millions in 30 years—this has taken place in 30 years, whereas he told us there was no scour since 1851, though he did up to 1851, and for all I know the scour and accretion may balance now. These works are in a comparatively undredged river where the bank has burst, and the river fretted, a rubbishing work altogether, where the training wall—which, like those in the Seine, stops the action of the ebb tide—was only two miles long, and cost £7,000. Of course if they first leave the channel to scour itself, and then to keep itself clean, with the river carrying down silt more than twice as much as the silt in the Mersey, such a river as that will do their business for them, especially if, in consequence of a breakdown of the works, they let the river wander as it used to wander before.

As to the Ribble, Mr. Stevenson says there has been a certain amount of accretion—he let us know none of the circumstances. We know that reclamation was always contemplated in the Ribble. We know how strong clauses were inserted in the Act of Parliament, as to the disposal of the reclaimed lands, but with regard to the Ribble he let this important fact drop out. On page 1159, and, I believe, that is the last bit of evidence I shall ask you to look at, at 16894 he is asked: "There is some other unknown factor which influences the bar?—Certainly a storm of wind influences the bar and causes grave variations. (Q.) We are perfectly clear upon this matter, but if you materially diminish the quantity of water which passes over the bar and its velocity you will injure it?—Yes. (Q.) There is a large quantity of silt which has to be carried out of the estuary?—Yes. (Q.) If that is not carried out there will be an elevation of the banks?—Yes. (Q.) I understand there

is in all your works which are scheduled here and others of which you have given us a list the beneficial action which resulted from the works which you have constructed ?—Invariably and where there was a bar generally speaking the bar was improved but only temporarily. (Q.) In any of your works have you injured the bar ?—I really can hardly answer the question. I can tell you that in the case of the Ribble the result of our works was to improve the bar, but it has fallen off since ; I do not say from what cause whether it is accretion or not, but it has gone back to what it was before ;" he winds up by saying at page 1160, in answer to the two Questions 16910 and 16911 : " None of the works that I have carried out there or elsewhere," he says " they range over three or four whether there has been accretion or not have ever injured the bar." That is at page 1160. The truth is, that when our channel is once made the estuary will have very little to do, and we shall stop up a heap of silt coming down from places above Throstle Nest. We shall stop up all the silt arising by erosion between Manchester and Runcorn, that is, erosion on the banks of the canal itself. We shall, to a considerable extent, stop the erosion on the cliffs on the estuary, by withdrawing the channel from fretting other places. We may do something by pitching the river banks, as the Ellesmere Port people have done, and as Liverpool ought to have done long ago, and by fulfilling the earliest wishes that Admiral Spratt expressed over and over again, in his reports about the erosion of the cliffs, and we shall prevent the channel itself at any state of flood or ebb rubbing down its own sandy side and contributing to damage on the bar. Now, as it is, the flood tide water of the estuary which is charged with sand and silt, with heavy and light matter, of course drops the heavy matter first, so that, as what Mr. Lyster dredged out of the docks is principally light flocculent matter, the contribution of the flood tide to the upper reaches must be principally this light flocculent stuff—a very slight motion keeps such stuff in suspension, though it falls in the Liverpool Dock where there is absolute quiescence, and as it is the rule with Mr. Lyster that more of the light matter falls at high water at Liverpool, though it is sand, it will fall at high water with us. I pass that by. But with the contribution of the heavier matter we deal, and the light flocculent matter is at first raised above the river from various multitudinous sources, most of which we shall most distinctly cut off. What will be the extent of the change that we shall work in the purity of the water in respect of the amount of matter in suspension is uncertain. Mr. Stevenson, upon page 306 of his book, says, " When a river channel has been thus fixed and confined by walls, I have ascertained by repeated observations that the tidal water covers up the channel in a comparatively *pure state*, instead of being loaded with particles abraded from the sandbanks and marshes. It has also been found that the process of deposit at the sides of an estuary so improved goes on very slowly after it has reached a certain stage, for the material deposited on the upper parts of the banks are, as afterwards more particularly described, exceedingly fine, and are carried only by the highest tides which seldom reach those elevated portions of the shores." Mr.

Fowler, at pages 686 and 687, says he notices the same fact upon the Tees. Here, upon totally different grounds, we have the strongest reasons to suppose that so far from causing accretion, we shall sensibly cut off the materials for accretion, and shall benefit the tidal capacity in two or three other ways—we shall increase the height of the tide.

CHAPTER XXIII.

THE ESTUARY.—GENERAL CONCLUSIONS.

Mr. Leader Williams says the training of the channels will increase the height of the tide at Runcorn—that is upon pages 524 and 525. Mr. Abernethy supports him upon page 624, and so far as I know, that important fact is not cross-examined to. We shall increase the tidal capacity by lowering the low-water line, which is a converse operation, and increase the range of the tide in the opposite direction—lower the low water and raise the high water—more will run out and more will come in. Mr. Leader Williams puts the increase, I believe, at spring tide at 8,500,000 cubic yards. Mr. Fowler says, at page 672, a greater amount of tidal water will be brought in through lowering the low-water line. Mr. Messent expresses the same fact by that diagram of the wedge of water. Mr. Brunlees says both the volume and velocity of the ebb will be largely increased. Mr. Giles confirms all this, and estimates the addition at $2\frac{3}{4}$ per cent. of all the tide flowing above Garston, and Mr. Stevenson admits it upon page 1157, Question 16854. There he held that the beneficial effects of the works would be first to depress the level of the low-water line, which is a matter of great importance, and secondly to increase the range of tide, and to this you must add the 1,500,000 cubic yards, for which the tidal part of our canal up to Latchford will be a new receptacle which is shown upon the top. Captain Graham Hills, on the whole, puts our increase as 14,000,000 cubic yards, and in putting it at that point does not take in any cubical contents of the channel below low water, yet that 14,000,000 is to do no good, though 5,800,000 cubic yards of the fret did so much good. Those advantages are stated by Mr. Stevenson to be very great, on pages 224 and 225 of his book, and no doubt they are : "The lowering of the low, water line and consequent flattening of the slope or inclination acts beneficially both on the tidal *propagation* and the *scour*. As regards tidal phenomena, it will be found that in all rivers whose beds and low water lines have been altered the rate of tidal propagation has been increased and the duration of the tide in the river has

been prolonged to the benefit of navigation, as will be explained hereafter when we treat of rivers that have been improved. It will also be found that the scouring power has in some cases been enormously increased, and made to act in the most beneficial way for the channel, a result which in river engineering can hardly be over estimated. In order to illustrate this it is only necessary to point out that the mere cubic contents dredged from a ford or shoal form no measure of the gain of tidal water due to the operation." So that the 14,000,000 cubic yards that we shall add will form no measure of the benefit we shall confer. Now contrast our giving the 14,000,000 cubic yards with the loss of the 17,000,000 cubic yards of tidal capacity during the last 20 years.

Now, a subsidiary point is the termination of our training walls, and a question was asked of Mr. Vernon Harcourt by a noble lord, as to what he had to say upon that subject. Upon that subject Mr. Eads' evidence is very instructive. Mr. Eads said, I terminated my training walls upon the Mississippi at a certain point. There were croakers there who told me as sure as fate that the end of my training walls, the moment the velocity ceased, up would start a bar—he says, so far from that, those prognostications have been absolutely unrealised, and sailors tell me you can feel the force of the current of my training walls 25 miles out to sea. What I want to show is this—there will be no adverse consequence from my training walls stopping where we do between the end of my training walls and the narrows—if Mr. Eads' training walls were sufficiently powerful to shoot the stuff right out straight to sea, and had the effect of being felt for 25 miles away, the force of the tidal water coming down my training walls is sufficient to keep the thing going until you get it taken up by the narrows in Liverpool; and then, when you cannot get it taken up by the narrows in Liverpool—all that is beyond the narrows in Liverpool has the same causes to act upon it, and the same class of consequence to be followed by that action after our channel is made, except that our channel will be a plus to the effect of the narrows in Liverpool. Mr. Vernon Harcourt limited his objection to our training walls that we did not take them far enough, but he forgot that the narrows take us up far out towards the bar. It is not as if we were training the river for the first time only to a certain point; we are training it beyond the point to which now it is in one sense trained—trained, partly by nature, which has created the narrows, partly by Birkenhead and Liverpool and the many dock walls, so that there is a tail to the head of the existing training.

The CHAIRMAN: Mr. Eads says: "If the proposed works of the canal company were carried out in the estuary very serious and injurious results would follow them, both as respects the entrance over the bar at the Queen's Channel and as respects the entrance to the Liverpool Docks and the docks at Ellesmere Port and Garston."

Mr. PEMBER: That is what Mr. Eads was brought to say.

The CHAIRMAN: Your argument was this, that because he gave his opinion of what happened with his bar in the Mississippi, I thought you gave it as a parallel case to the case here.

Mr. PEMBER: Mr. Eads makes the statement in examination-in-chief. That is what he is brought here to say, and he may think so, but when I cross-examined him I did not expect to cover the whole case with him. I get a certain fact, that whereas before he trained his works the pilots said they could only detect the Mississippi water two miles from the mouth, they say they can detect it 25 miles now out at sea. Now I say this, that if the action of the Mersey stream under its present circumstances, narrowed as it is partly by the Liverpool Dock Works and the Birkenhead Works and the Narrows, is sufficient to keep the bar down where it is; my training walls placed within it, artifically or naturally narrowing, as the case may be, can only act as an additional factor in the same direction, and will do something of the sort which Mr. Eads' training walls did on the Mississippi. I do not expect to get rid of Mr. Eads' opinion.

The CHAIRMAN: Where is his answer?

Mr. PEMBER: At page 917. He said croakers told him that the result of his training walls would be to create a bar, and he said they had not. On the contrary, says he, as a matter of fact, the Mississippi water used to be detected only two miles from the shore, now it can be detected 25 miles out at sea.

Mr. ASPINALL: This was a change from one channel of the Mississippi to another.

Mr. PEMBER: Nobody said it was not?—The question is this—was it trained or not, and was the effect after it was trained to shoot the Mississippi water with greater force out to sea or not. The answer is, It did. At page 931 he is asked: "Before we leave the Mississippi works I would ask this. You said that the opposers of your plan declared that a bar would form below your jetties?—Yes, beyond them. (Q.) That has not occurred?—No, not to any appreciable extent. (Q.) And therefore their prophecy that you would have to extend your jetties indefinitely has not been fulfilled?—That is true." I call Mr. Eads to contradict Mr. Harcourt. Now conceive an enormous volume of water that is thus, by our channel, intensifying the velocity of the tidal action in quantity and quality coming, but in reserve of what Liverpool and Birkenhead and the Narrows do now—conceive an enormous volume of water thus directed upon the bar 710,000,000 cubic yards in addition to our 14,000,000. If bars are ever kept open by water from tidal estuaries, then there is no force comparable to that amount of water brought to bear upon any bar at the end of any other estuary in Great Britain. The Tees is kept open with 20,000,000 cubic yards. The Tyne is kept open with 25,000,000. The Liverpool bar is a small affair. Captain Graham Hills gave a description of it; he said: The 9 feet depth is only 100 yards through, and within a quarter of a mile each way, going to and from Liverpool, there is 20 feet of water. You will find the reference to that at page 1063. From that point inland, he says, you get deep water up to Liverpool—there is no doubt of that. Is it not a crying shame that with so small an obstacle to get rid of, the large Atlantic steamers, close to the port, should have to wait about outside upon a lee shore, as Mr. Hornby says

they have to do? If the Mississipi and the Danube bars have been removed; if the minor mineral ports upon the Tyne and the Tees can get rid of their bars, ought not Lancashire to be ashamed of the Mersey as it exists now? The Mersey with 40 times the import and export trade of these minor ports put together, when you find that £200,000,000 is the money value of the foreign trade of Liverpool, and £17,000,000 is the money value of the Tyne ports! And let me remind you that this is only taking credit for Liverpool, and leaving out Garston and Ellesmere Port, Runcorn, Widnes, and Warrington. With such a trade as that to conduct, and to preserve, ought not the people connected with the Mersey to be ashamed of the condition in which the Mersey is left when they see what these minor ports on the Tees and Tyne have done? Is the Mersey to be the only unimproved and unregenerated river? Is there any special circumstance in the nature of the Mersey, which has been shown to you, which can warrant an affirmative answer to that question? Is it to be left unregenerated and unimproved, and possibly to ultimate decay? It is not for want of exhortation that the Mersey Dock and Harbour Board do nothing. Mr. Rennie and Admiral Spratt have both reported, as you heard, upon the work of improvement——

Mr. ASPINALL: Mr. Rennie has never done anything. You asked the question whether Mr. Rennie had reported, and several days afterwards I told you that we had found a letter sent by Mr. Rennie to the Dock Board, asking for employment, in which he made some suggestions.

Mr. PEMBER: If you do not like the term "report," I will not use it. Why I used the term "report" was because I find in this paper——

Mr. ASPINALL: It is not on the notes; it is not in evidence.

Mr. PEMBER: It is produced.

Mr. ASPINALL: No, it is not produced; I said that as you asked for it I would give it to you privately.

Mr. PEMBER: For what purpose?

Mr. ASPINALL: It is not evidence before the Committee.

The CHAIRMAN: What does it come to? You say Mr. Rennie reported, and Mr. Aspinall says he did not report.

Mr. PEMBER: What is the difference between sending a thing called a report and reporting to the Dock Board?

Mr. ASPINALL: It is not on the notes. It was given to the other side in the way I have described, and it is now in their possession, because Mr. Leader Williams asked personally and privately, as a favour, to have it left with him.

Mr. PEMBER: An official letter was sent to the solicitor of the Dock Board calling upon him to produce the report. If this is given to me, for what other purpose can it be than to use it; but, however, I will leave it. Admiral Spratt urged the work of improvement, and said most distinctly it would be an economical work, and it ought to be carried out.

In conclusion, I would ask your Grace is it not obvious that when a vast new interest springs up at Manchester, such as will be created by the existence of this canal and channel, that the initial step in the complete regeneration of the Mersey will have been taken? We shall not

injure the bar, that we know perfectly well ; but do you suppose that we shall not take an interest in the bar, and that we shall not be anxious to improve the bar apart from any question of having injured it ? When Lancashire has spent £7,000,000, as I hope she will be permitted to do, in perfecting Manchester as a port, she will want to make it as perfect in every respect in its seaward approaches as well as in everything else. Our opponents may call us, if they like, adventurers and enthusiasts, though, I think, I have proved that we are neither one nor the other ; but with regard to this question of the bar, the only hypothesis worth contemplation is the canal made, the millions spent, and the proprietors of the completed undertaking the representatives, to a very large extent, of the fortunes of Lancashire.

Now in pledging such a company as it will then be, and in pledging such a company as I ask you to incorporate, to co-operate in maintaining and improving the bar, as I do most solemnly—I pledge, not the provisional committee that asks for the Bill, powerful and influential and wealthy as that provisional committee may be, but I pledge the vast corporation or the trust into which it will go. I pledge the Lancashire that will be behind it, with its industries, its wealth, its bold and intelligent sense of self-interest. Let this canal once be made, and the new life once kindled in the mills, the foundries, and the workshops of Lancashire, and we will soon stop all maunderings over the bar ; there shall be no bar left to maunder over. Do you suppose that Lancashire cannot do what has been done by Newcastle and Middlesboro'. If Liverpool wants, as is suggested by Admiral Spratt, *piers perdu*, or breakwaters, or what not, we will co-operate with her, we will act with her. Perhaps, if the need arises, and she proves sluggish, we will force her hand and make her act with us. We make no secret of it, none at all. Our present works will enable us to use to the full the river as it is ; but we want the river better than it is, and we will shrink from no development of the capacity of the river, and acknowledge no finality. The Mersey Conservators know this well, we have told them so. They know it well, and we are desirous that your Grace should know it too. An attempt has been made to say that the work will be expensive beyond measure, and I am not enabled now, I suppose, to quote this report or statement of Mr. Rennie upon the subject ; but inasmuch as Captain Graham Hills cited it, and said that Mr. Rennie had stated that the work would cost five millions, I am entitled to say, too, that I have read it through, and the only item of expense that I can find is £156,000, and Admiral Spratt supports Mr. Rennie by saying that what he wants done to improve the bar would be an economical structure. Now, I say we shall consider that any sort of structure, even if it costs a good deal more than Mr. Rennie suggests, which really makes the entrance to the Mersey an admirable entrance, economical, unless it costs a fabulous sum. We are willing to co-operate—not we, as you treat us now ; but we as we shall be when this canal is brought into existence—a powerful corporation. We pledge ourselves now to co-operate in anything that may be required for the

improvement of the Liverpool bar; and if there be the slightest pretence for saying that any works of ours have deteriorated the bar, or have prevented its improvement, we will frankly and fairly let it come for argument before any Parliamentary Committee sitting upon a Bill for granting powers to carry out such a measure, and if it is proved that we ought to give more than Liverpool in proportion to the traffic we carry, or in consequence of the effect of our works, let Parliament say that we shall pay in that proportion. The Mersey Conservators know this well; and do you imagine that the Mersey Conservators, as has been hinted, are either reckless in this matter or that they are ill-advised. They are neither one nor the other. Admiral Spratt is an eminent man in his profession, and an accomplished man of science, and he has had this scheme before him now for more than two years, and for more than one year the Conservators have had the further advice of Sir John Coode, who is *facile princeps* in this branch of marine engineering. Do you suppose that a word has been uttered in evidence this year or last year of which the Mersey Conservators or Sir John Coode or Admiral Spratt has not known? They have the right to be here opposing this scheme, if it is a rash and evil one, and they are not here. The Conservators of the Mersey have a right to know what is going to be done in the Mersey under the Act which I read to you. They are not here and they were not here last year, though they have carefully studied our plans. They have looked at all the circumstances, they had considered all the contingencies, and they deliberately and elaborately arrange matters with ourselves. What does their absence show? What does their agreement with us show? They show satisfaction and confidence. Against that satisfaction and confidence, which surely I venture to say might be supposed to sway you, what is there to sway you? Which will you have, that or the unreasonable fears, not unalloyed with commercial jealousy, of Liverpool? Will you have the novel and paradoxical theories I have endeavoured to dissect, or will you take old-established theories which for the moment they attempt to supplant? Will you take the inconsistent and fantastic objections of the opponents, or take the judicial acquiescence of such a body as the Mersey Conservators acting under the dispassionate and unbiassed counsels of two such men as Admiral Spratt and Sir John Coode?

Surely! surely! my lords, I am entitled to be somewhat confident in this matter. Upon the whole surely it is a crisis in which the issue ought not to be seriously in doubt. Great necessities are proved, and great destinies are shown to be imperilled, and greater elements than my poor powers of exposition have been able to explain to you are at stake in the commercial interests of England. The contest is one of resolution against timorousness, of energy against apathy, of progress against inevitable retrogression. Your lordships will not be slow to see this; and I leave with all confidence the determination in your hands.

My lords, thus comes to a close for the present, at all events, the severest piece of professional labour that I have ever undertaken. I am almost ready to hope that I shall never have so heavy a one again.

Perhaps you will think that some part of the labour I have gone through is self imposed, but I was anxious, so far as my poor powers allowed me, to do justice to this vast case. I wanted to be able to say, if I may venture to repeat an old story, what Hyperides, the Athenian advocate, said to the Athenian judges when he drew aside the veil of Phryne: "At least I have shown you what you are asked to destroy."

The Committee here adjourned to deliberate, and on returning made the following announcement:

The CHAIRMAN: In a matter of such importance it requires considerable time to look over the evidence and speeches; therefore we shall not come to a decision to-night, but meet to-morrow morning, at 11 o'clock, when we shall discuss the matter amongst ourselves and give our decision when we have come to a conclusion.

(*Adjourned to to-morrow, at* 11 *o'clock.*)

DECISION OF THE COMMITTEE.

WEDNESDAY, THE 23RD MAY, 1884

(BEING THE 41ST SITTING OF THE COMMITTEE).

The CHAIRMAN: The Committee are of opinion that it is expedient to proceed with the Bill, subject to the insertion of a clause offered by Mr. Pember, prohibiting the commencement of the works until five millions of money has been subscribed or issued.

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